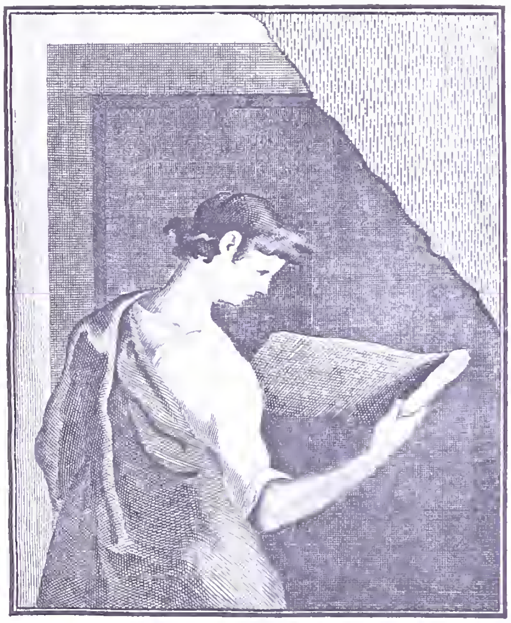

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VOL. VII. THIRD SERIES, 1900

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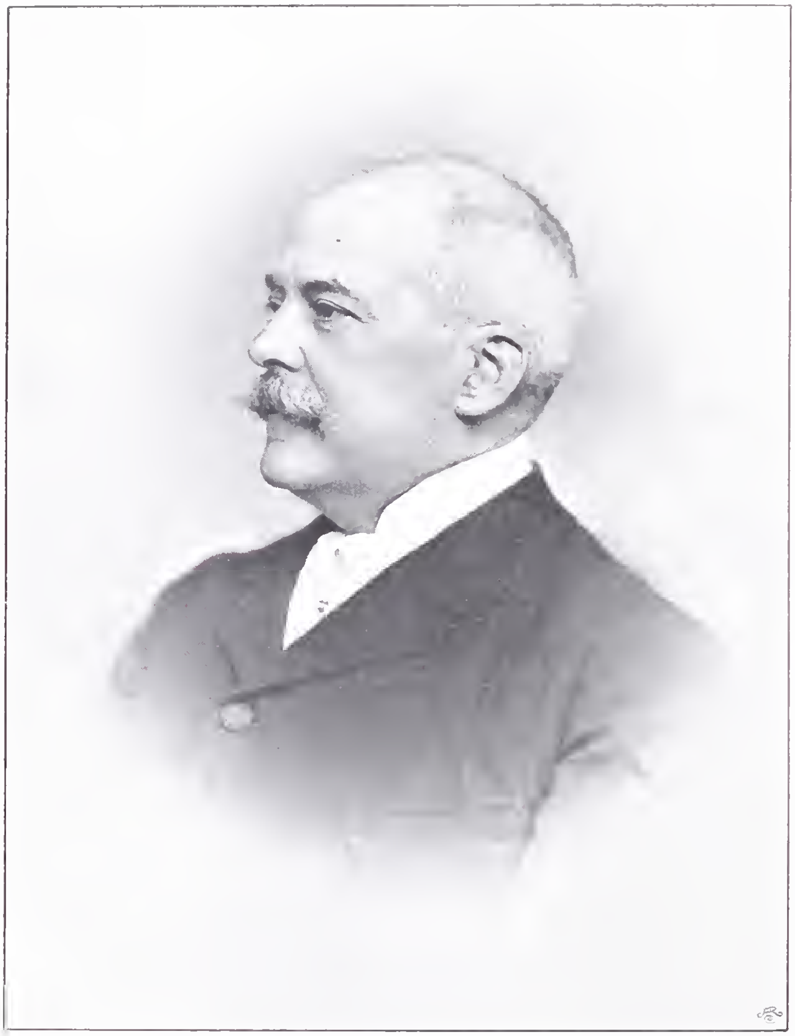

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PROFESSOR RODOLFO AMADEO LANCIANI, D.C.L.OXON.

Royal Gold Medallist 1900.

Yours faithfully
Rodolfo Lanciani

JOURNAL

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JOURNAL

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SESSION 1899-1900.

THE OPENING ADDRESS. Delivered by the President, Mr. WILLIAM EMERSON, at the First General Meeting, Monday, 6th November 1899.

COLLEAGUES, LADIES, AND GENTLEMEN,—

THE coming session, for which I have the honour of occupying this chair, is the sixty-fifth in the annals of the Royal Institute of British Architects. It is also the last session of the nineteenth century.

In glancing at the doings of the Institute since its foundation in 1834, the thing I most keenly feel in this particular position is the exceeding difficulty and responsibility of continuing and worthily upholding the character and dignity of the work that has been achieved by my predecessors in office.

I think the list of members of the Institute points to considerable and satisfactory progress in its affairs since its inception.

In 1837 we had 96 Fellows and Associates, of whom 15 only were country members. In 1887 we had 1109 members, of whom 259 Fellows and 435 Associates were from the Metropolis, and 169 Fellows and 246 Associates from the Provinces. In 1899, since the federation of the Country Societies with our London body—and this is a fact I wish to emphasise—our number has increased to 1612, of which 290 only are Fellows from the Metropolis, while 328 are from the Provinces, and 552 London Associates, and 442 from the country. The number of societies in alliance with us in England, Scotland, Ireland, and the Colonies is 17. These figures show that the old reproach of the Institute being merely metropolitan can no longer be cast at us, but that it has now attained a national character and influence, as much appreciated by the members of the profession in the country as in London. The work also of the Institute is increasing each year in importance, making its opinions heard and felt in respect of many important public questions relating to architecture.

The conservation of our national monuments, building projects both for the Metropolis and Provinces, the laying out of new streets and town improvements, legislative Acts in relation to building operations, the representation of the Institute on many public bodies and committees where questions affecting architecture or buildings may arise, the conduct of competitions, the promotion of the education of architects by periodical examinations, the presentation of annual prizes and medals, are some few of the subjects constantly dealt with by the Institute. Moreover, the Government at times does not hesitate to consult us on questions connected with public works.

All these are fair proofs that the sixty-five years of our existence as a Royal Society have not been altogether wasted from a public and national point of view, apart from matters more immediately connected with the interests of the profession at large, and the future of architectural development.

And the extending influence of the Royal Institute of British Architects seems in no danger of languishing—if one may judge by the vivid interest taken in its working and actions by the junior members, who yearly evince a growing desire to have more voice in its affairs. In respect to this point I may say the Council had under deliberation at the end of last session what steps could be taken under the Charter to associate them more directly with the work of the Council. Amongst other things it was decided to remove all restrictions as to the eligibility of Associates for seats on the Council. Also, with a view to extending our sphere of influence, a Congress will probably be held in London this session, and in Glasgow in 1901 at the time of the Exhibition.

At certain periods in the lives of individuals it seems fit to review with a critical eye the actions of their past lives. So at the wane of a century notable for its progress in knowledge, culture, and civilisation, it may be opportune for us as architects to glance back and see if any advance has been made in our art (which the Charter asserts is esteemed and encouraged by all enlightened nations), and whether our efforts have been conducive to the benefit of mankind and the glory of our country through the part the Institute has played during the last sixty-five years in the furtherance of our national interests so far as they are affected by architecture.

There are several reasons why during this century great architectural developments might reasonably have been expected. It has on the whole been eminently peaceful and prosperous—which fact one would think should certainly affect all arts favourably; for rest, quiet, and prosperity seem essential to their growth. This peace and prosperity were brought about by the exhausted state of Europe at the cessation of the wars of the last century and the early years of this; by scientific inventions which developed our Empire, manufactures, and commerce; and in later years by the wealth and naval supremacy of Great Britain, the knowledge of the awful effects of modern warfare, exemplified during the Franco-German campaign, and the growth of civilisation and humanitarian sentiments.

At the close of the eighteenth century and the beginning of the nineteenth Europe had passed through a crisis unparalleled in its character and effects in history. The Seven Years' war, the wars of American Independence, and the Napoleonic wars ending in 1815 had raised our National Debt to some £900,000,000 sterling. Taxation was heavy, commerce stagnant, and there was little demand for labour.

Our impoverished and tired country was eager for peace and only too glad to turn its attention to home politics and peaceful pursuits. Then the experiences of the French Revolution taught England lessons which resulted in provisions for the more direct representation of all classes of people in the government of the country, and the Commons became the people's House of Parliament.

The more direct representation of the people tended to the furtherance of utilitarian and humanitarian projects. The humanitarian feeling of the age for the poorer classes was shown by the abolition of the slave trade. This feeling found further expression in such measures as the formation of new Poor Laws, Factory Legislation, School Boards, Prison Laws, Asylum Boards, National Training Schools of Art, Railway Bills, Building Acts, and County Councils.

All these have in many ways provided opportunities for architects and largely affected architecture. But in most buildings for humanitarian purposes architecture has been hampered by the many necessary laws relating to sanitary matters, such as the relation of light area to rooms, superficial floor space and cubic air space, heating, ventilation, and drainage.

Whether architecture as an art has been improved by these conditions is questionable. From the utilitarian standpoint, Committees and Boards seem universally to affect architecture in an adverse manner; in fact, æstheticism and utilitarianism appear to be always antagonistic. But surely a properly educated body of architects should be able to reconcile the two.

As well as from peace and the peaceful politics of the century, an advance in architecture might reasonably have been looked for from the influence of the increase of knowledge, our modern facilities of travel, the scientific discoveries and inventions, resulting in an enormous influx of wealth; also from archæological research, and the desire for culture, from literary and artistic productions in books, journals, and publications which have educated the taste of the public and also influenced that of architects.

Looking at past history, art seems to have acquired fresh vigour and life and made the greatest strides at periods of learning and culture during years of independence and peace succeeding great wars or troublous times. These latter have often lent inspiration afterwards to architects and sculptors for the adornment of buildings, and given a living interest to their work. The comparative quiet of the fifteenth century, after the turbulent feudal ages, saw the rise of the Italian Renaissance. So, also, when the Western world settled down after the invasion of the Goths, the best periods of Gothic architecture were developed under the influence and teaching of the Holy Catholic Church. It was in the quieter years succeeding two centuries of continuous Mahomedan conquests that the stately and magnificent architecture in Africa, Spain, and the East developed itself. After the Persian sway had been destroyed at Thermopylæ and Platea, the Parthenon and the best Greek art were produced. So, too, at Rome the finest works of the Empire were created during the period of comparative calm and prosperity that followed the subjugation of Greece.

Some critics decry our present architecture and say it often shows little taste and no advance in art or style. But they should recollect that the highest level of the arts of any of the periods above mentioned was not arrived at in a day, nor did their architecture leap to perfection in a decade; and certainly architecture then could scarcely have had to fulfil the complicated requirements which make modern architectural problems so difficult. The Parthenon was erected the best part of half a century after Platea. The best of Roman architecture was not evolved till long after the battle of Actium; nor did the best phases of Gothic architecture appear until after many centuries of patient endeavour. Also, more than two centuries succeeded the rise of Mahomedanism before its literature and scientific knowledge developed, or its architecture resulted in the Mosque of Toloun. And many more passed before the erection of the tombs of the Caliphs, and before the elaborate refinements of the Alhambra and the perfect beauty of the Taj Mahal were arrived at. It took one hundred years of learning and study, initiated by the Humanists (who saw that, apart from the theological training of Mother Church, culture and scholarship are inseparable from true human greatness), to usher in the Italian Renaissance; and then a further century of study of Greek and Roman methods and of experiment and invention elapsed during the Quattro Cento (of which the Hybrid Classic and Gothic of the Certosa at Pavia and the Cathedral at Como are exemplifications), between the rise of Brunelleschi, the erection of his Pitti Palace and the dome of the Duomo of Florence, and the time of Bramante, Michael Angelo, Raphael, Giulio Romano, Peruzzi, Sansovino, Palladio, with the production of such works as the dome of St. Peter's, the Chapel of the Medici, the Villa Madama, the Library of St. Mark's, and other works of the best period of the Renaissance.

Is there any reason for thinking that this history of an advance in, or a renaissance of, architectural art is in any way being repeated in our time, or that with the unexampled wealth and prosperity of this country during the last hundred years there has been a stirring of the dead bones of architecture, and that we may even now be travelling towards the goal of a development of a fresh expression of English thought, and an evolution of a new modern style that some day may be no disgrace to our Empire? Possibly this might be answered in the affirmative, but what the evolution of our present methods may become remains to be seen.

At the end of last century the renaissance of the Cinque Cento, which a century or more later found expression in this country through Inigo Jones and Wren, had for years been in its decadence, and was at a very low ebb in England. The ascendency of classicism in our public schools and universities, where Greek and Latin were taught to the exclusion of modern languages and science, naturally had its influence on architects as well as on the general public, and resulted in a revived interest in Greek art and the study of Greek architecture. This was encouraged and assisted by the researches and publications of Dawkins and Wood, and Stuart and Adams. But though in the first quarter of this century the antique was the fashion, mere reproduction was sufficient for work which was inevitably devoid of life. Greek and Roman façades or porticoes were attached to modern structures, ancient designs were reproduced irrespective of their suitability to modern requirements—sometimes effectively, but always incongruously. The British Museum, St. Pancras Church, and many of the churches with Doric and other classic porticoes, and town halls of this period illustrate this.

After the first twenty years or so a more intelligent use was made of classic forms and details. It was then sought to give some expression to the specific purpose of each building, and some of our architects, following the methods of the Renaissance, began to use the borrowed details of Greece and Rome as a means to an end, and strove to adapt them more intimately to modern wants. The best works of Barry, Wyatt, Cockerell, and some others prove this. Also the printed works of Stuart and Revett, Cockerell and Penrose, showed the real meaning of classic architecture. It is sufficient for my purpose to name some of the most prominent of our classic architects, and their works. Amongst them were Decimus Burton, Soane, Nash, Wilkins, Basevi, Smirke, Wyatt, Barry, Cockerell, Elmes, Pennethorne, Cuthbert-Broderick, Gibson, of many of whose buildings we are proud.

As examples of some of these works may be named University College, the Fitzwilliam Museum, Cambridge, Bridgewater House, the Queen's Mews at Buckingham Palace, the Taylorian Institute at Oxford, the Travellers', Carlton, Reform, and Athenæum Clubs, the Royal Exchange, Regent Street Quadrant, the Royal Institution and High Schools at Edinburgh, the St. George's Hall, Liverpool, the Leeds Town Hall, the London University, Burlington Gardens, and our much-maligned National Gallery, which the late Lord Leighton said "had often been made the butt of curiously unmerited ridicule, though it is much easier to deride than better it." Also the Union Bank, Bishopsgate. Such buildings as these show that a distinct revival of classic architecture arose in this country during the second quarter of the century, and how great an influence classic education had upon men's minds, there being no recognised national style in which all were constrained by public sentiment to work. In fact classic architecture appeared to be well set in public estimation, with considerable chance of becoming the national style. Still, however greatly we may admire these works, they are wanting in the real life and interest found in the best buildings of any style, whether Greek, Roman, Gothic, or Renaissance. In many respects they were unsuited to modern conditions and environment; they bear no hint in their sculptured adornment of our country's history or life, and are thus devoid of one of the most vital and essential elements of good architecture.

It has been suggested that ornament is not architecture, but a very subordinate and non-essential part of it. On the other hand, Mr. Ruskin has said that structures without beautiful adornment are mere buildings and not architecture. The truth may lie between the two, but it is certain that the best architecture has always been intimately allied with sculpture, which invariably lent it its most vivid and living interest.

Apart from the more important buildings of the earlier half of the century, much cannot be said in favour of the domestic and more common buildings of these years. Stucco was predominant; it hid a multitude of sins, and, compared with the better built and simpler style of the domestic and cottage architecture of the last and earlier centuries, there was nothing to boast of. The Gothic style was used in ecclesiastical work concurrently with the Classic for secular purposes, but mainly of a late or Perpendicular period, and producing a cast-iron effect, rather than exemplifying the spirit of good mediæval examples.

Then came a different phase in the architectural thought of the century, which was almost the death blow to the Classic revival. There were many elements at work which produced the awakening of interest in mediæval art, and caused Classic to be almost superseded by Gothic architecture, at any rate for a time.

The discovery of steam as a motive power, for one thing, had caused a great influx of wealth and ease of travelling, resulting in a wider knowledge of the architecture of other countries, and of past styles.

No modern movement has been more influenced by literature than the Gothic revival. Horace Walpole may have been a fribble, but he had a firm though uninstructed faith in Gothic. Beckford, the author of *Vathek*, spent much money on what he conceived to be mediæval art, while Sir Walter Scott both built and wrote Gothic as he knew it.

Then about 1835 Pugin published his *Contrasts*, a vivacious and most sarcastic criticism on Pagan methods of architecture compared with mediæval or "Christian." In 1841 his *Apology for the Revival of Christian Architecture* was published, and other works followed, full of ardent enthusiasm for the resuscitation of severe mediævalism, particularly in reference to ecclesiastical structures. Mr. Ruskin's writings also not only greatly influenced architects, but their religious tone appealed to the public. At first, though, they were too strong meat for babes, as was shown in much Gothic work done shortly after. For example, owing to some remarks of his as to the outlines of the openings of traceried windows being more important than the details of the moulded stonework, the very coarsest plate tracery was erected, I suppose in exemplification of this truth, and for the economy in labour in refined mouldings. He powerfully pointed out the beauties of Gothic work, and urged the necessity for the living interest of good and meaning sculpture in noble architecture.

The publication of other works on mediæval art and architecture by Rickman, Pugin and Le Keux, Scott, Parker, the Ecclesiological Society, Nesfield, Street, Shaw, Butterfield, Burges and others, also Viollet-le-Duc's *Dictionnaire Raisonné*, with its magnificent analysis of the scientific construction of Gothic work, put this style in an altogether new and entertaining light before the student. The last-mentioned publication increased the attraction of thoughtful men to the beauty, science, and detail of the Gothic styles. I can well remember whilst a pupil with Burges the intense excitement caused by the arrival of each fresh part of this work. Added to this the Oxford Movement and the societies it gave rise to for the resuscitation of disused ecclesiastical forms and ritual caused the study of ancient Church architecture and arrangement to be taken up by the rising clergy and others at the Universities, who hence-forth were careful to go to the most capable architects of the Gothic school. This movement also provoked greater enthusiasm amongst the architects themselves.

Then ensued the battle of the styles. The ardent enthusiasm of the Gothic men for a revival of mediæval art and architecture, which blinded them to the beauties of Classic, and the persistent denunciation of the severe classicists who could see no merits in Gothic, gave good grounds for the vigorous diversion of opinion which raged during the middle years of this century. Gradually, however, the Gothic school seemed to gain an ascendency, which lasted until the seventies. There were, however, architects practising in both Classic and Gothic, according to the tastes of their clients. Wilkins practised in both styles, and the best work the Italian Barry produced was perhaps our Gothic Houses of Parliament. At first the early thirteenth and fourteenth century English work was the admiration of these Gothic partisans; then Viollet-le-Duc's works brought early French into fashion, as being larger and grander in effect. Later on, entire satisfaction not being derived from these (they were, I suppose, too simple and pure for the complicated environment of our many-sided lives), Decorated and Jacobean each had their turn. Amongst the leaders of this Gothic awakening, Pugin, Scott and Moffat, Pritchard, Paley, Butterfield, Street, Burges, Godwin, Pearson, and I may now add Sir Arthur Blomfield, were the most prominent; and there are others, some of whom are still alive, whose names are mainly identified with ecclesiastical buildings. I cannot here name examples of the works of all these men, and the best of them are known, I suppose, to most of us.

It was in the forties that Pugin built his own house and church at Ramsgate, the only work, I believe, he said he ever really enjoyed doing, and this because he was unhampered by a client. A little later he rebuilt Alton Towers for the Earl of Shrewsbury, and St. John's Hospital, Alton. He also erected or restored some forty or more churches and cathedrals, and some twenty conventual and a number of domestic buildings. But the work which perhaps added most to his fame was the assistance he rendered in the working out of the intricate and refined details of Sir Charles Barry's sumptuous design for the Houses of Parliament. To my mind it is a fine combination, classical in its symmetry and horizontality, and Gothic in its picturesque outline and detail. In many respects it is the most notable building erected in England during this century, and to many it must be a matter of congratulation that our great Houses of Parliament should have been designed in a national English style of architecture, rather than in the more monumental Classic. At any rate, whatever our views as to style may be, it stands as one of the most complete and best buildings of modern Europe.

Of the men of this period, Sir Gilbert Scott stands out pre-eminent, not so much, perhaps, on account of any very particular individuality or extraordinary excellence in his works—though at the time they were extraordinary—as from the great part he played in the revival of this period, his enthusiastic zeal, and the establishment of what one might almost call a school of Gothic architecture, caused by the enormous number of works carried out by him in the erection and restoration of churches and cathedrals, and the training a staff or school of young men sufficient for the purposes of his enormous practice.

But for the overbearing attitude of Lord Palmerston, we might have had from Sir Gilbert Scott in the Foreign and Colonial Offices a building which would have been as grand a success as the Houses of Parliament.

However critically we may examine, at the present day, the works of these great men, we must always remember that the advantages of our time in easy travel, access to architectural libraries, and the multiplicity of illustrated works on all branches of architecture now open to us, and the enormous increase during the last fifty years of archæological works, were not possessed by them. They were not smothered by learning as we are; they had to find out for themselves that which we can learn easily from others; and, with more limited knowledge than the student of these days *ought* to possess, they worked energetically and earnestly for the resuscitation of our indigenous style of architecture. Further, however much the methods adopted for the preservation of our national monuments may be cavilled at—and criticism is often captious—had it not been for the men of this period many of these buildings would have been, by this time, well on the road to irretrievable ruin. To them, therefore, members of this Institute, and men who gave much time and thought to its working, not only our gratitude, but that of the nation, is due.

In some respects, perhaps, William Burges was the most original of the purist school of Gothic architects of this revival period, and the most deeply imbued with the mediæval spirit and the most familiar with its art and craftsmanship. He also insisted that architecture was not worthy of the name if it did not tell some tale, historic, poetic, or otherwise. He also urged a point which seems to have been lost sight of in these later years—namely, that all architects should learn to draw the human figure, and design their own sculpture—at least as to grouping and arrangement. His competitive design for the Law Courts, if not the best, was certainly the most monumental and notable of the Gothic ones submitted. His work at Cardiff for the Marquis of Bute, and in his own house in Kensington, in Cork Cathedral and Studley Royal and Ripon Churches, shows a genius for the invention of interesting and beautiful detail in the true mediæval spirit that no other architect of this age has approached.

Street's works also are so well known to you all that to mention more than one or two would be waste of time. He was one of those who saw that ecclesiastical architecture should meet also the requirements of modern times—that large churches should be adapted for congregational purposes; and it is instructive to note his endeavours to connect a wide nave with a narrow choir—not always successfully, as at Bournemouth, where he canted the easternmost bays of the nave inwards, causing a pinched effect just where an open and spacious area seems to be demanded. His works, whether ecclesiastical, public, or private, were always interesting from the vigorous personality impressed upon them, and this was always apparent in his early works, as in the church at Garden Street, Westminster, in the later and much more refined one at Vassall Road, Kennington, in the house he erected for himself at Holmbury St. Mary, the mansion in Cadogan Square, and in the Law Courts, which was the last great effort of his life. These Law Courts unfortunately seem to have given the death blow to Gothic. It was not the fault of the architect so much as that of the Building Committee, who seem to have been determined to have a large Central Hall. Accordingly designs without this feature were discarded, notwithstanding that this waste of space, useless also as a *foyer* to the Courts, deprived the building—to which an insufficient site had been appropriated—of the last chance of obtaining light and air to the corridors. The plan of this building may not be all that could be desired, but that is hardly the fault of the style of architecture, though from this fact it has been argued that Gothic is unsuited to modern requirements.

Of the other notable figures in this revival of mediæval architecture I will only mention one. All were working for the same end, though often on slightly different lines and with varied success as to the quality of their work.

In referring to the late Mr. Pearson I will only mention his last and, I suppose, his best and most beautiful work—namely, Truro Cathedral—and simply to point out what was certainly one of the failings in the methods of the Gothic revival. Truro is a modern cathedral intended to serve modern needs, but it appears to have been designed with a view to reproducing a mediæval church, whose plan was originated to meet requirements of other ages—entirely different from those of to-day.

There can be no doubt that for congregational purposes in these days, and for worship in which all can join, a central tower on piers blocking up the best part of the internal area is a sad mistake, and inexcusable unless a particular object of our church building is to erect in plan and detail mediæval structures that in future ages may deceive the inquiring archæologist. This was not the spirit of the men of the Italian Renaissance. But it is useless to attempt to specify the characteristics or buildings of each of the notable men of this Gothic revival period; their best works are known to us all. However adversely faddism or conceit may criticise many of them, it cannot but be felt that they greatly redound to the credit of the architects of this period, and also add the greatest interest to the history of the architecture of the century.

Since the seventies hot enthusiasm for a resuscitation of any definite style of Gothic seems to have smouldered and died, and to have been succeeded by a period of flirtation with pretty well all styles of architecture. Byzantine, Moorish, Romanesque, Queen Anne, Dutch, French Renaissance, and even Egyptian have each had their admirers. The plain and severe, the rococo and ugly, the picturesque and grotesque have all been tried—all being the result of the study or copyism of debased deductions from those original styles which inspired the greater Classic and Gothic architects of the second and third quarters of this century.

The study of the purest examples of art must be the best tuition; if we endeavour to emulate the debased, our work will be on a still lower grade:

> "Noble souls
> Still find the base is hurtful, and the good
> Is full of glory."

I have heard of an architect saying he adored drawing a piece of impure detail, and of another that he delighted in designing something that would give a shock, and I think their works prove the truth of their remarks. Such sentiments, however, can arise only from an ill-regulated fancy or from a vulgar desire to attract attention, and cannot lead to great results. The overloading of detail and ornamentation is, again, another phase of a similar feeling. Many of the so-called adornments of modern buildings are not only not indispensable, but positively detrimental to the dignity of architecture. Nevertheless, these later years have been marked by a keen study and most enthusiastic interest in, and desire for, the good and beautiful in architecture, with an earnest attention and effort to discover the right adaptation of known (and shall I add sometimes unknown ?) architectural forms to the manifold and complicated requirements of the time.

In looking back, then, generally at the architectural work of the century, what evidence is there of there having been, or being, any revival of architecture in any way similar to those of past periods ? Sir Gilbert Scott once said in these rooms, in reference to the earnest enthusiasm of the middle of the century for a resuscitation of our English Gothic architecture, that no parallel to it had occurred since the Italian Renaissance, and I believe he was right; and further, I believe that we are at the present moment in course of an evolution in art that may in time result in a uniform national style. And for the following reasons:

During this century there seem to have been three fairly distinctive periods. In the first the Classic style was zealously cultivated; in the second the resuscitation of Gothic was passionately preached; in the third, no one style has predominated, but there has been a restless searching and craving for something that shall satisfy the conditions and requirements of modern life.

In the first period, though classic teaching led to the study of, and desire for a revival of, the antique, it was differentiated from the movement in Italy of the fifteenth century by so many of our architects subordinating modern requirements to a clothing of ancient examples reproduced for the purpose rather than designing in ancient methods with an individualistic treatment suitable to the occasion. This arrested true progress. It therefore failed in altogether impressing the nation with its suitability for English nineteenth-century architecture. Nevertheless, there was in the movement a zeal for stately and noble work, and it was this desire which caused the founding of the Royal Institute of British Architects as one means for the attainment of the end.

The second period, with its thirst for knowledge and culture and facilities for education, certainly evinced a similar feeling to that which found expression in the Humanists of the fourteenth century in their insistence on scholarship and culture being necessary for the elevation of mankind.

In their case it was apart from, rather than in conjunction with, theological teaching; while in this century, notwithstanding the broad views and freethinking tendencies of the age, it has been side by side with a distinctive religious awakening, which started and then kept alive the interest and desire for a revival of mediæval art, under the plea that it alone was Christian.

This mid-century Gothic movement began with ecclesiastical architecture, and extended itself to civil work. But it failed, as did the Classic movement, in establishing itself as a recognised national method or style, and also for somewhat similar reasons.

A slavish copyism was engendered by reason of the scorn cast by the purists on detail inexact in its reproduction. To this school it seemed of more importance that every portion and detail of a modern Gothic building should have its precedent in the Middle Ages than that, as a building, it should exactly meet modern needs.

This arrested individualism and thoughtful adaptation of the mediæval methods to our complicated modern wants. It was exactly (with some exceptions) the reverse of the principle which actuated the sculptor-architects of the Italian Renaissance. They adopted antique methods and details, and with original ingenuity pressed them into subserving their plans, not permitting them to dominate the requirements of the time. Nevertheless there was in this Gothic movement the evidence of life and a distinctive and ardent striving after more architectural light, and a national general style; and this feeling was fostered and kept alive by men who were members of this Institute.

England owes much to the men who led our Classic and Gothic schools, and one cannot but feel that Fergusson's severe criticisms on their works are harsh and unjust. From his remarks it might be supposed that they used no brain power whatever, but simply copied, nor cared to do more than copy. He argues as if it were to be expected that a perfect style suitable to all our complex modern life could have been attained at one jump. We know that long periods, centuries even, are required for such an evolution. He seems to have thought that their first efforts should have reached the highest levels. A more reasonable view is that the copyism he denounces was but the first step in a legitimate process of development. Both by the Classic and Gothic purists of this country that step was honestly taken.

In this the third distinctive period of the century we see architects abandoning purism, and betaking themselves to an eclectic treatment of the two great branches of style. May we not hope that along this line a national architecture may eventually be reached, at once good in an artistic sense, and flexible and useful from a practical point of view?

An analogous phase was gone through in the early Renaissance. Should this happen, I venture to think it will be found that the R.I.B.A. has contributed to it in no small degree. For the leaders of the movements I have indicated were members of our body, and we may justly congratulate ourselves on the steps we are taking to foster emulation of such excellent examples, for the careful and wide study of the rising generation of architects is fostered by it, and their keen interest is proved by the splendid results shown in the work produced under the incentives offered by the Institute in the presentation of medals, prizes, and travelling studentships for design, draughtsmanship, and for architectural research.

Personally, I have a strong conviction that the evolution of a sound architectural style must be accompanied by a development of the neglected art of architectural sculpture. At all the best periods of architectural development the sculptured adornments of the buildings (except where religion forbade, as amongst the Mahomedans) told their history. Have we, with our enormous Empire, nothing to record? Or is it owing to inability, indifference, or parsimony, that our life and history find no place in our architecture? Or does the crushing weight of the utilitarian element overwhelm artistic effort?

Our Houses of Parliament have some forty or fifty statues of kings, &c.; the sculptured subjects suggested in Scott's Foreign Office design and Street's Law Courts were pruned away by the Government. Our huge railway stations and commercial and domestic buildings show nothing but meaningless ornament. Will our new Public Offices illustrate in any way the growth of Her Imperial Majesty's dominions? Or is the country too poor or too indifferent to give our sculptors such a chance? Is it not impolitic of a Government in these discontented days to discourage the development of a craft the highest in art, which elevates public spirit, gives employment to a large class of the most intelligent workers, and at the same time raises the standard of architecture, and enhances the glory of a country?

I learn that Frankfort has lately started a fund, the income from which is to be spent in the adornment of the town with sculpture. This shows the increasing feeling there is in the cultivated world for such a step. Why cannot we do likewise?

However, sculpture is a detail of refinement and adornment, which, if architects would suggest it properly and wisely, might possibly more often find place in our buildings. But aid from sources external to architects is needed in other ways if a national architecture is ever to be arrived at.

London seems practically in process of rebuilding in its main centres, and constant enlargement is taking place in the suburbs. Surely steps should be taken to prevent our new streets being eyesores instead of improvements, and to avoid the repetition of such a medley of incongruities and commonplaces as may be found in Shaftesbury Avenue and Charing Cross Road. Architectural opportunities in these streets were afforded which, under proper control, might have had a magnificent result. Surely there should be some controlling power to settle the general lines, heights, and materials of buildings and style of design.

That the London County Council has something to say as to construction and heights is true, but their purely practical conditions being complied with, any one can build according as his own sweet will, taste, or ignorance may prompt. This cannot be the right method in a great Empire for the fostering of a national art like architecture.

Every man who builds in a public street has a duty to the public to perform. His building should not endanger the safety of the public, but neither should it be a shock to their sensibilities. Proper control should render it impossible for us to see such a thing as I noticed the other day—a dull red-brick Renaissance house on one side of a bright glazed teapot ware pseudo-Gothic building, and a stone nondescript erection on the other—of different heights, horizontality and materials; while close by was another huge stone façade with heavy projecting columns and pediments, constructed surface ornament, standing apparently on nothing but sheets of plate-glass. Can anything be worse? Notwithstanding the modern shopman's requirements, architects should resolutely set their faces against such hideous uglinesses.

In indifferent matters each man should have liberty of taste, if the indulgence thereof injures neither himself nor others. Individualism is needed in art, but if the imagination or individuality be only a mark of undisciplined self and an offence to art, it is positively injurious in its demoralisation of public taste, and should be restrained. Were there a Ministry of Fine Arts, with a committee of control under a chief whose qualifications were not *only* political, surely something might be done.

The committee who were responsible for the Chicago Exhibition—a work which was magnificent in its effect, as all who saw it were agreed—was composed of architects and sculptors, who were charged with the erection and adornment of the numerous palaces. This committee settled the general style of buildings to be erected, the heights of cornices, floors, &c.; and each design was submitted to the criticism of the whole committee, who passed it, or suggested improvements, which the architect was forced to consider. The result was grand and stately, such as those who did not see it can hardly realise. I only mention this to show what can be done by intelligent control, and I do not think we are behind our American cousins in either intelligence or capacity for design.

The Ministry of Fine Arts in Paris has such a controlling voice in all matters of public works, in laying out the streets or boulevards, in the erection of public monuments, and even in their bridges. In France it is entirely out of the power of any one to erect unsightly edifices in prominent positions to the annoyance of the artistic sense of the nation.

There is another thing that also affects our architectural design. We are always, in these days of greedy competition, in too great a hurry and rush. Art is long, and sufficient time for thought and quiet for solitary reflection are not afforded the busy architects of the day to solve properly the problems set before them. Designs for half a million's worth of building have to be prepared, submitted, and passed probably in, say, three months, and then the unfortunate architect is told that his designs are not equal to those of past ages.

Ralph Waldo Emerson says, "We do not get enough of solitude, with the result that our minds are in danger of being vulgarised and of being unable to see things in their proper proportion." This is exactly what frequently happens to the architect of to-day: he does not get enough quiet for meditation.

Let us hope that next century our architects, with their increasing wisdom, which will enforce periods of rest for reflection and mental recuperation, and with higher cultivation which will improve taste, and under wiser auspices which, with an imperial spirit, will exercise an enlightened control, may develop a true style, sufficient for modern requirements and satisfying to æstheticism.

As this goal cannot be reached by architects working on different methods and lines, and competing to outdo each other by differences or eccentricities of style, let us hope we may, in a glorious enthusiasm for our art, be led to sink personal predilections in combined efforts to seek the true artistic adaptation of our architecture to modern needs, and that such efforts may in time elucidate a style suited to the twentieth century, which, while allowing of individualism in the treatment of details, may have a general harmony and at last eventuate in a distinctive national architecture, stately, dignified, and picturesque; an architecture that may enhance the glory of this great empire, and be a proof that the British nation is neither sordid nor penurious, but in its highest state of civilisation may become capable of emulating the best art history of past ages.

VOTE OF THANKS TO THE PRESIDENT.

Mr. J. MACVICAR ANDERSON, F.R.S.E., *Past-President*:

Mr. President, Ladies, and Gentlemen: It is with great pleasure that I avail myself of the privilege of proposing a formal vote of thanks to you, Sir, for the Address that you have just delivered, and to which we have had the pleasure of listening. For two reasons I am glad to exercise this privilege. In the first place, because it affords me an opportunity of offering to you, Sir, on my own behalf, and I think I may say also on behalf of the Royal Institute of British Architects, hearty congratulations upon your occupying the Presidential Chair of the Institute. Knowing, as I well do from experience, what are the duties, the responsibilities, the anxieties, the cares, and also the pleasures and honours of the distinguished position which you now occupy, I am fully persuaded that you will discharge those duties not only in a manner creditable to yourself, but in one that will conduce to the best and highest interests of the Institute, as well as the profession of Architecture. And secondly, Sir, I am glad of the opportunity of availing myself of the privilege of proposing this motion, because I can honestly congratulate you upon your first Presidential Address. I regard it as no ordinary or commonplace composition; I look upon it as a masterly review of the architecture of the past century, exhibiting great research, full of breadth of thought, suggestive thought, and entirely free from any illiberal or merely sectarian opinions. I therefore, Sir, congratulate you heartily upon the Address.

I venture to make one word only of criticism, and I do so the more boldly because I feel quite sure that it will meet with your entire concurrence. In your opening remarks you referred to the membership of the Institute, and you drew a distinction between Metropolitan members and provincial members, referring to the latter with satisfaction as pointing to the character of the Institute being not merely Metropolitan but National. So far I am entirely with you, but I think you did not go far enough. In these days, when what was merely some years since National is now absorbed in what is Imperial; in these days, when with splendid enthusiasm and loyalty our Colonial brethren have come forward voluntarily and have offered valuable military aid to the old country in her difficulties—in these days, Sir, I think it ought to be with some pride and satisfaction that we reflect that out of the 770 members whom you described as provincial there are no fewer than seventy-eight who are practising in the Colonies and are members of the Greater Britain.

One other point I should like to refer to briefly, although it does not find a place in your Address, that is, the financial condition of the Institute. When I had the honour of occupying the position you now hold our condition in that respect was not altogether satisfactory. We had spent large sums upon these premises, and our publications had become somewhat more expensive than we were justified in making them. Now the financial position is much more hopeful. In the last three years you have declared a surplus. In 1896 you had a surplus of £591; in 1897 of £1,116; and last year, 1898, of £1,241. Now, Sir, I refer to this point simply for this reason: that I hope the Council will realise that it does not necessarily follow that because you have a surplus you need spend it. I am one of those who have always maintained that this Institute ought to have a more worthy home than we now possess, and I hope to live to see the day when the Institute will be more suitably located. But let us not be in too great a hurry. Let us take full return for the money we have spent upon these premises, and then, after waiting patiently a few years, having accumulated a surplus of, say, £20,000 or £30,000, let us find, or better still, build, a worthy home for the Institute. You will pardon me, I hope, for offering this word of advice—I have not many opportunities of doing so.

Sir, your Address consisted principally of a very masterly review of the architecture and the architects of the century which is now about to close and pass into history. I do not propose to follow you in the details of that review, because to do so would simply be traversing the ground in much less happy phraseology than that in which you have already passed over it. But let us take for one moment a glance at the future. London is continuing to expand with enormous strides. I have known it now for nearly fifty years, I am sorry to say, and we might have expected the enormous advances that have been made on previous years to have indicated some signs of stopping. But such is not the case; our suburbs are being extended with continual and amazing rapidity. Where is this to end? Who can say? But of this I am satisfied, that in proportion as Greater London continues to expand and extend, Central London becomes more and more congested and more and more unfit for the work it has to do. Now in the coming century it is to me almost a certainty that the principal thoroughfares of Central London must of necessity be widened and enlarged. Great opportunities will thus be extended to the architects of the day. Will these be properly and worthily taken advantage of? Sir, I turn to your Address partly for an answer. In one passage you say: "The study of the purest examples of art or architecture must be the best tuition," and I heartily concur; but a little later you say: "In this third distinctive period" (that is to say, the day in which we now live) "we see architects abandoning purism, and betaking themselves to an eclectic treatment of the two great branches of style." That, in my humble opinion, Sir, is not so encouraging as your first observation, as I think all true architecture is based on purism. You have very fitly and happily expressed the state of architecture in what you described as the third distinctive period of the century. The expression to which I allude is "a period of flirtation." I think, Sir, you might have gone very far without finding three words which would have so fitly expressed what we see passing around us. The ways of flirtation we know are not always to be commended. It is true that an innocent flirtation with a pure-minded girl has charms of gladness and sweetness which possibly some of those who listen to me may have experienced; but such are not always the ways of flirtation; and we cannot be surprised, I think, that the staid classicist, the stern mediævalist, or the chaste purist should find any difficulty in condemning much of the work of the present day. But, Sir, you have taken an optimistic view of this question, and you look forward to good being educed even out of evil; you look forward to a distinctive national architecture being evolved from this third period of the history of the century. I can only hope that results will justify your optimistic opinion. I am far from condemning all the work of the present day—there is much that is valuable, much to be admired; and therefore I join hands with you in looking optimistically upon the future. No doubt when these days of flirtation have passed by, as they are bound to do in the nature of things, and when Dame Architecture has settled down to the serious and responsible work of the twentieth century, we may hope that her progeny will produce works of such dignity, purity, and simplicity as may be worthy of the name of national architecture.

One other point, Sir, you referred to, and that was the desirability or otherwise of establishing some official control over the architecture of the day. Now, if it were to consist merely in the political appointment of a Cabinet Minister, whose term of office would expire on a change of Government, I cannot see that it would lead to any good whatever. If, on the other hand, we were to have a Minister of Fine Arts, a permanent official, appointed purely for his knowledge of and familiarity with the arts, then I think that good might come out of it; and that I hope we may some day look forward to see. Sir, in the hope that your views will find expression in the twentieth century, I will conclude by proposing a most hearty vote of thanks to you for the interesting and suggestive Address which you have delivered.

Mr. JOSEPH SMITH [*F.*], President of the Sheffield Society of Architects, said: Mr. President, Ladies, and Gentlemen, I have been asked to briefly second the Resolution which has just been so ably and felicitously proposed, and I have the greatest pleasure in doing so, for various reasons. First of all, the President has very graciously honoured us in Sheffield lately by attending our Annual Dinner, on which occasion he delivered to us a very interesting and instructive address. I have, therefore, on behalf of the Sheffield Society and the other Allied Societies very great pleasure in seconding this proposal. And, secondly, I have pleasure in seconding it on account of the reference that has been made by the President to the statistics of membership among the provincial architects. It is a fact which I think the Institute will do well to consider and to appraise at its proper value, that you have a membership from the provinces amounting to 48 per cent. of the total. Over 50 per cent. of the Fellows are found in the provinces, and about 45 per cent. of the Associate members. And you have only just tapped that resource. If the Institute will lay itself out to be of greater practical value to provincial architects, as well as to Metropolitan architects, you will find much larger accessions of membership than you have had in the past from the provinces. There are scores of architects in our larger provincial towns who do not consider the Institute to have rendered any great service to the architectural profession; but that impression is gradually dying away, and since you have laid yourselves out to ally provincial societies with the Metropolitan body, the Institute has risen in the esteem of provincial practitioners. The junior members also in the provinces are aspiring in a greater degree than in the past to become connected with the Royal Institute. I congratulate the President upon his very able and interesting Address; it has been, as the Mover of the Resolution remarked, a masterly review of the architecture and architects during this century With regard to the development of a national style, our ideals in that direction can only be realised by honestly and seriously working out the problems which come to us day by day. The meeting of the requirements for which we build, and the clothing of the architecture which we design to meet those requirements in the most artistic and pleasing form that we can possibly invent or design, is the way, I think, to come eventually to anything like a definite national style. If the Royal Institute, which has the advancement of architecture as its highest aim, will try, in the educational efforts that it makes for young people, to lead them into this line of study, and infuse them with a desire to meet the problems of the day in the very best artistic manner, I think that will be one of the best means of bringing about a national style. The President in his Address has given very clear and powerful evidence that the fears which he expressed in its opening paragraph that he would not be able to worthily sustain the work of his predecessors in character and dignity are groundless. I follow him in all his aspirations, and with him look forward to the happy evolution of a national style of architecture. I have much pleasure in seconding the proposition.

Mr. F. C. PENROSE, F.R.S., D.Litt., D.C.L., *Past President*, supporting the Resolution, said he heartily followed the previous speakers, and thanked the President, in the name of all present, for his most interesting and valuable Address.

FOUNDATIONS OF BUILDINGS.*

By S. Anglin,

Master of Engineering, Royal University of Ireland.

In recent years the field of operations of the architect has been considerably enlarged by the introduction of steel and iron work in the construction of buildings, and what was formerly considered to be exclusively the business of the civil engineer is becoming more the work of the architect. A knowledge, therefore, of the nature and properties of steel and iron and the methods of calculating the strengths of the various members of such structures is becoming more essential every day to the architect. It is not proposed in this Paper to deal with the arranging and designing of such structures—this of itself would supply material for more than one Paper—but rather to make a few remarks on the superstructure or foundations of such buildings, and, indeed, of buildings in general.

In ordinary buildings constructed of stone or brick walls, the pressure on the foundations is pretty evenly distributed over a comparatively large area of ground surface; so that pressure per square foot on the foundations is usually small, and does not call for any special consideration, except when the ground is soft or treacherous. In the case of lofty buildings of enormous weight supported on pillars the case, however, is quite different. In such buildings as much as 1,000 tons may come on the foundations of a single pillar; this immense pressure being exerted on a comparatively small area of ground surface, it will be apparent that special means will have to be adopted for insuring the stability of such foundations.

My attention was forcibly drawn to the importance of this subject, and to the scant thought it sometimes receives by the architect, about four years ago, when I was asked to report on the causes of the collapse of a large mill then in course of construction in Germany. This was a typical Lancashire cotton mill of several stories, the floors being for the most part supported on cast-iron pillars. These pillars rested on brick piers, underneath which were beds of concrete, the concrete itself resting on a sand foundation. Partly owing to the presence of water in the sand, partly owing to inferior bricks and mortar and the slovenly manner in which the work was executed, and perhaps, also, partly owing to the defective cast-iron base plates on which the pillars rested, one day, when the construction of the mill was nearing completion, the foundations of one or more of the pillars subsided, causing the base plates to fracture, and the shafts of the pillars to pierce through the brickwork and concrete beneath. This occasioned the complete wreck of the structure, and entailed the loss of the lives of several of the workmen. Here we have an example of a building carefully designed and erected so far as its superstructure was concerned, but, owing to carelessness in the designing and execution of the foundations, meeting with an untimely fate.

In America the construction of lofty steel and iron buildings is carried to much greater lengths than in this country. The erection of what are termed "sky scrapers" seems to have originated in Chicago, and from there has spread to several other cities in the States, and it is not at all improbable that in the near future we shall see their introduction into England.

There may be many objections to these colossal structures from an æsthetic point of view, and I dare say many people consider them monstrous eyesores. There may be also objections to them as excluding light and air; yet, when we admit all this, we cannot but admire the ingenuity displayed in their construction, and from a commercial point of view we must admit their claims, especially in cities where land is very valuable. Such being the case, we should face the situation boldly, and, instead of decrying them as monstrosities, should rather study them and make ourselves conversant with all the intricacies of their design.

In America, the work of designing these structures is usually divided between the engineer and architect. The details of their construction are so varied that neither the engineer nor the architect by himself can satisfactorily cope with them. The work of the engineer consists in designing the steel framework, including the pillars and girders: that of the architect in arranging the plan of the rooms and offices and the skeleton walls and partitions, and also the general decorations; while the foundations, which are of the utmost importance, might be planned conjointly by both. In providing for these, the loads coming on the foundations must first be carefully calculated. These consist of, first, the dead weight of the building itself, including that of the floors and roof; and, secondly, the loads on the floors, which may consist of goods, machinery, and people, and also the wind pressure exerted on the building. These latter loads may change from time to time, and are sometimes termed live or accidental loads, and they vary considerably in different buildings.

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* A Paper read before the Manchester Society of Architects, October 12, 1899.

The maximum live loads on the floors of dwellings may be taken as $1\frac{1}{4}$ cwt. per square foot ; on public buildings at $1\frac{1}{2}$ cwt. per square foot ; and on warehouses at from $1\frac{1}{2}$ to 3 cwt. per square foot. In the case of dwelling-houses and public buildings it scarcely seems probable that these loads can be reached, but it is always advisable to have a margin. It is quite possible that such floors may contain a densely packed crowd of people, which may weigh as much as 1 cwt. per square foot of floor surface. In the case of lofty structures consisting mainly of offices with light fixed furniture it is not necessary to allow for such heavy loads as those specified. The weight of the roof, including wind pressure and snow, depends on the span, and varies between 25 and 65 lb. per square foot of roof surface.

A lofty steel structure has just been completed in New York, and it may be of interest to refer to a few particulars respecting it.

This is the Park Row building, mainly consisting of offices. It is the highest building in the world, its height from the level of the kerb in Park Row to the top of the cupola being 386 feet. It has thirty-two stories, and contains 1,000 offices, having accommodation for 4,000 persons. The total weight of the building is estimated at 65,000 tons, and the pressure on some of the pillar foundations is as much as 1,100 tons.

The structure is carried on round timber piles of spruce from 10 to 14 inches in diameter, driven into a sand foundation to a depth of about 20 feet. The piles are placed from 16 to 18 inches apart, centre to centre, and are driven in rows, the distance between each row being about 24 inches—centres. The load on each pile does not exceed 16 tons. The heads of the piles were cut off level, and concrete was filled in between them to a depth of 12 to 16 inches, the surface of the concrete being level with the tops of the piles. Upon the concrete are laid granite blocks which receive brick piers, which in their turn receive the grillage beams and distributing girders. Some of the interior pillars rest directly on the grillage beams, which are steel-rolled joists. In other cases distributing girders rest on the grillage beams of two or more of the foundations, and support two or three pillars. These distributing girders are massive steel riveted girders of the box form, and vary in length from 20 to 47 feet, and in depth from 6 to 8 feet, and some of them weigh as much as 47 tons.

This example of a building is, of course, an extreme case, and the architect may never be called upon to consider such enormous loads and such intricate foundations ; yet the general principles coming into operation here are, in a modified way, applicable to similar buildings of less pretensions.

Having said so much in a general way, we will now consider more in detail as to what constitutes a good foundation, and what working loads different foundations are capable of sustaining. I would, however, remark that within the scope of a brief Paper, hastily written, it is not claimed that anything in the nature of a complete survey of the question can be attempted.

In preparing a foundation the first thing to be done is to examine the nature of the ground on which the building is to be erected. It is not often that the surface of the ground is suitable for building upon. If it is of rock, of course we have all that is necessary so far as stability is concerned. It is the exception, and not the rule, however, that a rocky foundation is to be met with. It then becomes necessary to excavate until a reliable foundation is reached. As to what constitutes a reliable substratum is a matter very largely the result of practical experience.

Ordinary foundations may be ranged under three classes, viz. :

1. Foundations in rock, or in some material whose stability is not affected by water.
2. Foundations in firm earth, under which are included such materials as sand, gravel, and hard clay.
3. Foundations in soft earth.

It must be borne in mind that the base of every foundation should be as nearly as possible perpendicular to the direction of the pressure which it has to sustain ; and, moreover, it must be of sufficient area to bear that pressure with safety.

To prepare a rock foundation for being built upon it will be necessary :—(1) To cut away all loose and decayed parts of the rock ; (2) to cut and dress the rock to a plane surface, or to a set of plane surfaces like those of steps, perpendicular to the direction of the pressure ; (3) to fill, where necessary, hollows in the rock with concrete or rubble masonry ; or it may be advisable, in order to distribute the pressure, to cover the surface of the rock with a layer of concrete varying in thickness from a few inches to several feet.

The crushing strength of rock varies considerably. That of chalk, if we may consider chalk a rock, is as low as 30 tons per square foot. The crushing strengths of different kinds of sandstone vary between 140 and 450 tons per square foot, that of limestone about 500 tons per square foot, while that of granite or basalt is as high as 1,000 tons per square foot.

The intensity of the working pressure on a rock foundation should in no case exceed one-tenth of the pressure which would crush it. It is not often in practice, however, that the actual pressure on a rock, or indeed any foundation, approaches this limit. Speaking generally, the average pressure coming on a fairly good quality of rock is about 10 tons per square foot in work which has been executed ; and the architect might fix in his mind anything up to 20 tons as a safe rule to go upon.

On weak sandstone which is so soft that it crumbles in the hand 2 tons is sufficient to allow.

Having said so much on rock foundations I will pass on to the consideration of foundations laid on *firm earth*, under which head may be included hard clay, clean dry gravel, and clean sharp sand. For buildings resting on such foundations it is desirable, in this country, that the foundations should be carried at least 3 feet below the surface of the ground for sand or gravel, and 4 feet for clay, in order that they may not be weakened by the disintegrating effects of frost or other climatic conditions. In other countries where greater extremes of climate are experienced a greater depth is necessary. The practice in Germany, for example, I understand, is that for foundations of this kind the depth should be from 4 to 5 feet, and in North America from 4 to 6 feet.

It is very desirable that surface water should be kept from such foundations by constructing suitable drains.

Different authorities vary very much in their estimates as to what working pressure it is desirable to place on this class of foundations. The German authorities recognise 2·5 tons per square foot as a suitable pressure. With good clay, however, sufficiently beneath the surface of the ground to be protected from atmospheric influences, much higher pressures can be safely applied. The main piers of the Tower Bridge in London rest on clay, on which they exert a pressure of 4 tons per square foot. At Openshaw, near Manchester, the massive steel pillars of Messrs. Sir W. G. Armstrong, Whitworth & Co.'s works, which are subject to vibratory loads from passing cranes, exert in some cases a pressure of as much as 5 tons per square foot on the clay, and no settlement has been observed. In other buildings, no doubt, greater pressures exist; but this is the limit so far as my experience goes. In the great majority of structures built on clay the pressure is much less. That of the Nelson Column, in Trafalgar Square, London, does not exceed 1·3 ton per square foot. This column rests on clay of great depth and compactness. In preparing this foundation an excavation of 60 feet square and 12 feet deep was made and filled with concrete to a depth of 6 feet; on this base a frustum of a pyramid 13 feet high was built in brickwork, on which the superstructure was erected. On a base 60 feet square, which may be taken as the real base of active support, the gross load amounts to 4,665 tons, equivalent to 1·3 ton per square foot, as already stated. I think I may say that three times this load could with safety be placed on this foundation.

Foundations in gravel and sand, under favourable circumstances, are capable of bearing heavy loads. The Campanile of Cremona, 395 feet high, standing on Pliocene gravel, bears with a pressure of 12 tons per square foot on its base.

It is not often that water is injurious to a gravel foundation, as it can percolate through freely; but with sand the case is quite different, as water so alters this material as to make it quite useless for a foundation. The obvious tendency of sand saturated with water is to escape laterally under pressure. If this tendency can be counteracted by any means it may be possible, though not desirable, to utilise a foundation of this description. Sheet piling driven around the foundation often answers the purpose. A case in point is supplied by the tower of the Hamburg waterworks. This tower rises about 290 feet above the surface of the ground; it is built of brickwork, and rests on a circular block of concrete 56 feet in diameter and 11 feet thick. This in its turn rests on quicksand enclosed by sheet piling driven below the line of saturation of the river Elb. The gross weight supported amounts to 5,310 tons, which gives a pressure of about 2 tons per square foot on the quicksand.

A foundation of unequal density or compressibility is one to be avoided. When of equal compressibility any subsidence which takes place is uniform all over the foundation, and the structure erected on it is not materially damaged; but if one part of the foundation is more compressible than another, the structure has a tendency to be tilted out of the perpendicular, and cross-stresses are produced which may destroy its stability. In North Italy, as is well known, a number of leaning towers erected so far back as the twelfth and thirteenth centuries exist, and the reason assigned in the majority of cases for these being out of the perpendicular is the unequal compressibility of the foundations on which they are erected. A noted example occurs in the Campanile or leaning tower of Pisa. This is a circular tower 178 feet high, weighing 11,800 tons, with a base 60 feet in diameter, which is equivalent to a pressure of more than 4 tons per square foot. The soil under the foundation is of unequal density, it being more compressible in the direction in which the tower leans. That the settlement took place during the progress of the work may be inferred from the presence of iron bars introduced to hold the building together.

When foundations are too soft for building upon, and when the depth is too great for excavating to a reliable material, special means must be adopted. One method is that to which I have referred in the tower of the Hamburg waterworks. Another method is to consolidate the ground by timber piles, which was the method adopted in the Park Row building at New York. These bearing piles act as pillars, each supporting its own weight of the building. They may either be driven through the soft stratum until they reach a firm stratum underneath and penetrate a short distance into it, or, if that be impracticable owing to the great depth of the soft stratum, they may be supported wholly by friction in the soft stratum. From practical examples, the safe working loads on these piles may be taken as follows:—

For piles driven until they reach the firm ground, 1,000 lb. per square inch of the area of the pile may be allowed.

For piles standing in soft ground, and supported wholly by friction, 200 lb. per square inch of pile section is sufficient.

The best material is elm. The point of the pile should be fitted with an iron shoe, especially if stones or other impediments are to be met with, and the head should have an iron band to prevent its being split by the blows of the ram. They may be driven by hand or steam power. For the piers of bridges and similar structures iron screw piles or cylinders may be used.

In ordinary steel or iron structures, the main pillars usually rest on concrete, brickwork, or stone, and sometimes on all three in combination. When used in combination a concrete block is first laid, upon which several courses of brickwork may be built, and lastly a stone slab placed on the top. It is not often, however, that all three materials are used together, one or two generally being found sufficient. The intensity of pressure on the ground underneath may be modified to the required extent by increasing the area of the concrete block, or by stepping out to the necessary extent the lower courses of brickwork.

It is of great importance that the architect should be conversant with the working loads allowable on these materials.

The working pressure allowed on concrete foundations of sufficient thickness varies considerably according to the quality and the age of the concrete. Generally speaking, it may be taken as varying between 2 and 10 tons per square foot. It is not often, however, in work that has been executed that so high a pressure as the maximum mentioned exists, from 1 to 5 tons being most general. When pressures of 5 tons and upwards are to be provided for, great care should be bestowed on the manufacture of the concrete. All the materials composing it should be of good quality. All earthy substance, ashes, soft broken bricks, or greasy matter should be excluded; round smooth gravel or stone should be broken. The best Portland cement should be used; it ought to have a cohesive strength of 400 lb. per square inch after seven days from mixing. The proportions of the different ingredients should be four parts of broken hard brick or stone, one of clean sand, and one of cement. The concrete should be turned over twice dry, and three times wet, and well rammed in 12-inch layers. It is not advisable to send the concrete down a shoot or drop it from a height, unless it is afterwards remixed, as the larger pieces fall to the ground first, the smaller pieces next, and last of all the cement. Whenever used under water, the water should be still; a current will carry away the cement and leave only the ballast.

The crushing strength of bricks varies considerably. It may be as low as 60 lb. per square inch, and as high as 1,700 lb. per square inch. Best blue bricks show a strength of 1,200 lb., while Stourbridge fine bricks will stand 1,700 lb. or even more. When great pressures have to be borne, the latter, or others similar in strength, should be used. It is desirable in a brick foundation that not only should the quality of the bricks be good, but also that they should be properly laid in good cement. Each course as laid should be well rammed down and bedded, leaving the layer of cement between each course as thin as possible. When this is done it is extraordinary what a brick foundation will support.

In connection with the failure of the foundations of the German mill already referred to, I had some experiments made as to what loads a brick pier was capable of sustaining. The test was made on a block of good red brickwork 3 feet 1 inch by 2 feet 11 inches, and 1 foot 4 inches thick. It was built of five courses bedded in cement, the bricks being pressed close together, with a thin layer of cement between them, and allowed to set for ten days before the test was made. The bricks were made by Messrs. Smethurst, of Oldham (and some of similar quality were tested by Mr. D. Kirkalday, who found that it took a pressure equal to 480 tons per square foot to crush them). The pier composed of these bricks was inserted between iron plates and placed in a hydraulic press, the area of pressure on the brickwork being 5·3 square feet. Pressure was gradually applied until it reached 622 tons, which is equivalent to about 117 tons per square foot. The pressure was not increased beyond this point, as the press was incapable of anything greater. After the brickwork was removed and examined it exhibited no signs of failure, and was apparently as perfect as it was before the test.

According to the Berlin building regulations, with ordinary brickwork set in lime mortar a load of 7 tons per square foot is allowable for a working pressure, while with good hard bricks laid in cement 11 tons per square foot is recognised. Generally speaking, in this country anything between 2 and 10 tons per square foot is the practice.

With iron or steel pillars resting on stone, brick, or concrete foundations, there is another very important matter, frequently lost sight of, which should receive careful attention, and that is the proper bedding of the base of the pillar. When it rests on a block of stone, the stone should be carefully dressed off to a level surface, and the bottom surface of the base of the pillar should also be true. Some engineers insist upon having the latter machined. Even with these precautions, in very important work a layer of sheet lead might be introduced between the two surfaces. I remember several years ago when the present *Manchester Guardian* newspaper offices were being built a failure arising from improper bedding occurred. The main cast-iron pillars supporting this building sustain very great loads. One day it was discovered that one of the cast-iron base plates was fractured, and also that the stone on which it rested was cracked. This occasioned a good deal of alarm for the safety of the building, and a celebrated London engineer was called in to report on the matter. He discovered that it arose from imperfect bedding. The top of the stone, instead of being tooled to a level surface, was hollow towards the centre, and the whole pressure was transmitted to two or three points towards the edges, which sufficiently accounted for the failure.

With concrete and brickwork foundations a good plan, when it can be adopted, is to bed the base in cement. This often can be done with a loose base, but in the case of steel pillars, where the base is an integral part of the pillar itself, it cannot be satisfactorily adopted. The *modus operandi* in such cases is to leave the surface of the foundation rough, and place the pillar upon it with iron wedges inserted at the four corners. By means of these wedges the pillar can be raised to the right level and made plumb. When this is done liquid cement should be carefully run underneath. This effectually fills up all inequalities and evenly distributes the pressure over the foundation. The cement should be of such a nature as to set hard, and may vary in thickness from ¼ inch to 1 inch.

9, Conduit Street, London, W., 11*th Nov.* 1899.

CHRONICLE.

The Administration of Building By-laws in Non-Metropolitan Districts.*

The Deputation from the Institute to Mr. T. W. Russell, M.P., Parliamentary Secretary, Local Government Board, report to the Council as follows:

The Deputation attended at the Local Government Board on Thursday, 26th October, at 12 o'clock. There were present:—

Representing the Local Government Board:

Mr. T. W. Russell, M.P.
Sir R. T. Thorne, M.D. } *Medical*
Dr. H. F. Parsons. } *Officers.*
Mr. H. C. Monro.
Mr. P. Gordon Smith.

Representing the Royal Institute:

Mr. Lacy W. Ridge [*F.*].
Mr. H. D. Searles Wood [*F.*].
Mr. W. J. Locke, *Secretary.*

(Mr. W. M. Fawcett, *Vice-President*, and Professor T. Roger Smith, who had been asked to attend, were unfortunately unable to do so.)

The Deputation, referring to the Report addressed to the Local Government Board by the Institute, laid before Mr. Russell the views of the Institute on the advisability of grouping the Model By-laws for non-Metropolitan districts in England and Wales, with the view to the adoption of such groups, and such only, as were applicable in particular localities; and the exemption from certain groups of by-laws of detached buildings standing within their own grounds; the uncertain requirements of local authorities as to the drawings required to be deposited, and their declining in some cases to give the grounds of their objections where approval of plans is refused; the establishment of a special technical Tribunal of Appeal; the extension to the provinces of the London system of dealing with rights as to party-walls, and other questions connected with the administration of building by-laws.

Mr. Russell, in reply, said that, as regards the principle underlying the Report, *i.e.* the advising by the Local Government Board of the local authorities as to what by-laws it would be best for them to adopt, it was always a delicate matter, owing to the jealousy of local authorities at the interference of a central authority. He thought the question of grouping the by-laws was a fair point for consideration. As regards the demand on the part of local authorities for drawings, such bodies often exceeded their rights; but in some instances powers were given to local authorities by special Acts. At the stage reached by the present Parliament, he could hold out no hope of legislation on the questions involved, but everything had been carefully noted, and should be submitted to the consideration of the expert advisers of the Board, who would report as to the extent it would be possible without legislation to meet the views of the Royal Institute. In conclusion, Mr. Russell asked whether it would be possible to confer with the Deputation again. An answer having been given in the affirmative, the Deputation thanked Mr. Russell for his courteous hearing, and withdrew.

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* See Report of the Special Committee, and Resolutions thereon, Journal, Vol. VI., 3rd series, pp. 449, 459.

The late Sir Arthur Blomfield [*F.*], A.R.A.

There was an exceptionally good attendance of members and their friends at the opening meeting of the new session, and the President's Address was attentively followed by an interested and sympathetic audience. Before the formal business was proceeded with, the loss the Institute has so recently sustained by the death of Sir Arthur Blomfield, was announced by the President in the following terms:—

It is with the deepest regret and sorrow that I find my first words to you from this Chair must be to announce the decease of one of our oldest friends and members. Only last Monday morning I received a kindly letter from Sir Arthur Blomfield expressing his intention of being present here this evening, and also saying that Lady Blomfield would have accompanied him, were it not that she would be in Cheshire at the time. But that same evening a Higher Power willed otherwise, and suddenly—very suddenly—he passed away. Sir Arthur Blomfield was an ardent admirer of the Gothic style of architecture, and was one of the enthusiastic promoters of the revival of that style in the middle of this century. He was one of the School of Purists, and in all his buildings there was—as in his life—a strong element of self-restraint. Many of his buildings stand out from the current architecture of the day by their quiet refinement, and the total absence of affectation. He evidently felt that eccentricity is not art, and he always strove to adapt his architecture to the requirements of the day. His numerous works are so well known, that it would be superfluous to attempt to mention them here. An account of his career, however, will appear in the Journal, and it is proposed to have an exhibition of drawings, &c., of his works at one of our evening meetings. To mention one of his works, not by any means the most important: the interior of Christ Church at St. Leonards is an object lesson to many of us in its simplicity, stately dignity, and proportion; so also is the nave of St. Saviour's, Southwark. Sir Arthur became a Fellow of the Institute in 1867. He was a Vice-President from 1886 to 1889, and he would have been President some years ago had he been willing to accept the office, which he felt himself compelled to decline, as he could not spare the necessary time. He was elected an Associate of the Royal Academy in 1888, and received the honour of knighthood the following year. He was the recipient of the Queen's Gold Medal in 1891. Sir Arthur was the stamp of man produced by the old schools of architecture, now fast dying out; and, apart from his professional status, his modest and genial nature, his conversational powers, his kind and generous friendship, always willing to aid younger members of the profession with the fruits of his experience, endeared him to all who knew him. And, further, he was a staunch upholder of the necessity for honour, high principles, and morality amongst English gentlemen. This was emphatically proved by one of the recent acts of his life in connection with a certain society to which he belonged—many present will know to what I refer. His death is a great loss to both the architectural profession and the Institute.

By request of the President, the Secretary then read the following passages translated from a letter he had received that morning from M. Charles Lucas [*Hon. Corr. M. Paris*]:—

> But first I must ask you to associate my cordial and respectful remembrance with all the eulogies that will not fail to be given at to-morrow's meeting to the memory of our honoured and regretted colleague, Sir Arthur Blomfield.
>
> Though I scarcely knew the works of this master architect save through the designs published in the *Builder*, yet on the other hand I knew the man, the perfect gentleman, who showed such great authority and courtesy in presiding over the discussions of the architectural section of the International Congress of Hygiene in 1891.
>
> My honoured colleagues, M. Fenger of Copenhagen, César Daly and M. Emile Trélat of Paris, M. Stubben of Cologne, had the privilege at that time of paying with me a fresh tribute to the professional qualities of Sir Arthur Blomfield—and the memory of it still remains with me.

The following resolution was then put from the Chair and passed by acclamation:—"That a note expressive of the sincere condolence and sympathy of the members of the Royal Institute of British Architects be sent to the widow and family of their deeply lamented colleague, Sir Arthur Blomfield."

His death, it may be added, occurred on Monday night, the 30th ult. He was seized with syncope from heart disease while at his club, and died before medical aid reached him. The funeral took place on Friday, the 3rd inst., at Broadway, in Worcestershire. A memorial service was held the same day at St. Mary's, Bryanston Square, which was attended by the President, the Hon. Secretary, members of the Council, the Secretary, and numerous members of the Institute.

The Statutory Examination.

At the General Meeting last Monday the Hon. Secretary, Mr. Alexander Graham, F.S.A., announced that the Statutory Examination held by the Institute pursuant to Section 140 of the London Building Act, took place in the rooms of the Institute on October 26 and 27. Two candidates attended, and the following passed, viz., Charles Archibald Danbury, of 1 Wellington Road, Peckham. This gentleman has accordingly been granted by the Council a Certificate of Competency to act as District Surveyor in London.

Art at the Universities.

The *St. James's Gazette* recently drew attention to the following extract from an article in the *Cambridge Review* discussing the exhibition of prize work in the national competition of schools of art.

> Cambridge is represented by one prize only, a silver medal awarded to Mr. F. E. Wiles for a book illustration and a menu card. "Good general composition," says the Examiners' report, "with a good sense of decoration pervades the whole, and the border is appropriate and graceful." Oxford does not appear at all, and we may well ask how it is that our University towns, which ought to foster all that is best in Art as well as Literature, fail so conspicuously here. The Examiners say in their report that they "are pleased to see an increase in the number of paintings of old buildings in the vicinity of the schools where they were produced." Though we naturally look to the great manufacturing centres for activity in producing designs for their staple manufactures, here at least is a field in which art students of a University town have special advantages. Lastly, we would fain ask how it is that the University does so little to foster a love of art among its undergraduates? The schoolboy who comes to a University with a genuine love for art, full of high ideals and hopes, finds nothing to encourage him. It was not till they were leaving Oxford that William Morris and Burne-Jones discovered their life-work. Why at least can we not have a course of University lectures on architecture, book illustration, early engravings, Japanese art, and many kindred subjects? Why not an Art Tripos?

One most heartily sympathises with the demand for a wider art life at our Universities, but the writer's question as to the establishment of an Art Tripos cannot be answered as airily as it is asked.

The Sanitary Inspectors' Examination Board

The first examination for certificates of qualification for appointment of Sanitary Inspector, under Section 108 (2) (*d*) of the Public Health (London) Act 1891, will be held in London on Tuesday, 5th December 1899, and the four following days. Particulars will be forwarded on application to the Hon. Secretary, Wm. R. E. Coles, 1 Adelaide Buildings, London Bridge, E.C.

MINUTES. I.

At the First General Meeting (Ordinary) of the Session 1899–1900, held Monday, 6th November 1899, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 50 Fellows (including 24 members of the Council), 28 Associates (including two members of the Council), 4 Hon. Associates, and numerous visitors, the Minutes of the Meeting held Monday 26th June 1899 [Vol. VI., p. 488] were taken as read, and signed as correct.

The President having made feeling allusion to the sudden demise of Sir Arthur Blomfield, A.R.A., *Past Vice-President and Royal Gold Medallist*, and referred to his architectural achievements and high personal qualities, moved, and it was thereupon

> Resolved, That a note expressive of the sympathy and condolence of the Royal Institute of British Architects be sent to the widow and family of their deeply lamented colleague, Sir Arthur Blomfield, A.R.A.

The President also referred to the loss the Institute had sustained by the death of Mr. William Simpson, *Hon. Associate*, and on his motion it was agreed that a message of sympathy and condolence should be sent on behalf of the Institute to his widow and family.

The Hon. Secretary announced the decease of the following members:—Thomas Elworthy [*F.*] and Henry Hockey Burnell [*A.*].

The following member, attending for the first time since his election, was formally admitted and signed the Register, viz. Louis Moore, of Woolston, Southampton, *Associate*.

The Hon. Secretary announced the results of the Statutory Examination for the office of District Surveyor under the London Building Act held on the 26th and 27th October, and that the Council had granted a Certificate of Competency to the successful candidate [see p. 19].

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election, namely:—As FELLOWS, Francis William Bedford [*A.*] (*Qualified* 1891, *Ashpitel Prizeman* 1890, *Owen Jones Student* 1891–92) (Leeds); James Garry (West Hartlepool); Josiah Gunton; Edward John Lowther [*A.*]; Robert Falconer Macdonald [*A.*] (*Qualified* 1889); Herbert Read [*A.*] (*Qualified* 1889); Thomas Taliesin Rees [*A.*] (*Qualified* 1892) (Birkenhead); Francis William Troup [*A.*] (*Qualified* 1889). As ASSOCIATES, Raymond Turner Barker (*Probationer* 1890, *Student* 1898, *Qualified* 1899); Henry Thomas Bromley (*Probationer* 1893, *Student* 1897, *Qualified* 1899); Herbert Henry Dunstall (*Probationer* 1891, *Student* 1893, *Qualified* 1899); Hubert Ernest Gilford (*Probationer* 1895, *Student* 1897, *Qualified* 1899); Charles Hale (*Probationer* 1895, *Student* 1897, *Qualified* 1899) (Kettering); John Hunt (*Probationer* 1890, *Student* 1894, *Qualified* 1899); George Ernest Kendall (*Probationer* 1893, *Student* 1896, *Qualified* 1899) (Leicester); Thomas Geoffry Lucas (*Probationer* 1890, *Student* 1891, *Qualified* 1899); Henry Alfred Neubronner (*Qualified* 1899) (Penang, Straits Settlements); Walter Gray Ross (*Probationer* 1893, *Student* 1895, *Qualified* 1899); William Moss Settle (*Probationer* 1894, *Student* 1896, *Qualified* 1899) (Walney, Barrow-in-Furness); Thomas Sharpe (*Probationer* 1891, *Student* 1894, *Qualified* 1899) (Manchester); Vincent Steadman (*Probationer* 1892, *Student* 1894, *Qualified* 1898) (Bristol); Henry Francis Traylen (*Probationer* 1892, *Student* 1894, *Qualified* 1899) (Leicester); Thomas Hubert Hardinge Vowles (*Probationer* 1892, *Student* 1894, *Qualified* 1899) (Oldham); Percy John Warman (*Probationer* 1894, *Student* 1896, *Qualified* 1899). As HON. ASSOCIATE, the Rev. John William Robbins, M.A. (Oriel College, Oxford).

The Opening Address of the Session having been delivered by the President, a vote of thanks, moved by Mr. J. Macvicar Anderson, *Past President*, and seconded by Mr. Joseph Smith [*F.*], President of the Sheffield Society of Architects, was passed to him by acclamation.

The proceedings then closed, and the Meeting separated at 9.40 p.m.

Relief on Ivory Casket [p. 24].

EXCAVATIONS IN CYPRUS, 1896.

By Dr. A. S. Murray [*H.A.*], F.S.A.

Read before the Royal Institute of British Architects, Monday, 20th November 1899.

THE district of Salamis in Cyprus, where we began excavating in the spring of 1896, is perhaps most widely known from its having been there that Saints Paul and Barnabas landed on their missionary tour through the island. According to local tradition, Barnabas was afterwards buried there, and very possibly that had been his home. We are told he was a native of Cyprus. A few miles away is to be seen the Gothic cathedral of Famagusta, with other striking Gothic remains, now more than ever familiar to architects in a recently published French book. The Venetian fortifications of Famagusta, with Othello's tower, are still an imposing feature. But to classical students the district is best known from the extensive ruins of the city of Salamis, which lie along the sea-shore. These ruins had been explored and found to represent a purely Græco-Roman town. It had been hoped that in the lower strata there might be recovered remains of a much older settlement, which would confirm the tradition that a band of Greeks returning from the war of Troy under their leader Teucer had established themselves there and built a city, naming it after their native island of Salamis. But no such remains came to light. It became necessary to look elsewhere. At no great distance inland were two conspicuous tumuli, one of which may or may not have been the tomb of Teucer, which, a late Greek writer says, was still visible; but those tumuli had been long ago ransacked. Nothing was known of their contents. Near by, however, were several underground tombs of unusually large dimensions, constructed of huge blocks of squared masonry, and in some instances exhibiting key-shaped joints such as are peculiar to masonry of what is now called the Mycenæan Age. Clearly these were the sort of remains that were to be expected on the original site of the Greek colonists. The difficulty, I suppose, was that the tombs are a mile or more inland. The Greek settlers would certainly have kept to the coast. But this difficulty is explained away by the fact that an extensive tract of marshy land, through which the river Pediæos has to find its way, had once been a fine bay. This bay had become silted up by the quantities of earth brought down by the river in the course of centuries, and at last the inhabitants had been obliged to move down to the sea shore and there build a new Salamis. It was at the head of that bay, close to where the river entered it, that the original Greek colony established themselves, choosing for their habitations, so far as I could make out, an extensive rocky slope overlooking the river. That rocky slope ends in a long abrupt crag facing the river, but separated from the river by a considerable stretch of what was, when we arrived, tilled fields worked by the people of a neighbouring village called Enkomi. An ancient road had been cut down through the crag, leading to those fields. But on the face of the fields there was no sign whatever of ancient civilisation, and so matters may have remained for who knows how long, except for a very simple accident. An ox in ploughing put its foot into a hole. At night the ploughman and his friends returned to the spot, and found underneath a fine tomb of the Mycenæan period. But their secret leaked out, and as I was just starting for Cyprus at any rate it seemed advisable to go and see whether there were any more tombs in those fields. Before we had done we opened about 100 tombs, all of the Mycenæan Age. We therefore claim to have found the burying-ground of the original Greek settlers. It is true that many of the tombs were empty, having been rifled, possibly first by the Romans, and later by the mediæval inhabitants of the district, of whom we found abundant traces in the form of thirteenth or fourteenth century pottery, and in a series of deep wells which they had sunk in the fields. Yet, notwithstanding this previous rifling of many of the tombs, the objects in gold which we obtained are in quantity only second to those discovered by Dr. Schliemann at Mycenæ, and in quality fully as important, while our ivory carvings are of far greater value than his, and our pottery more abundant and of greater interest. You may see them and judge for yourselves in the Museum, but you must bear in mind also that in accordance with the law of Cyprus we had to leave a third share for the museum of the island.

The tombs lay at a depth of from four or five feet to ten feet below the surface. Some were constructed of finely jointed squared blocks of limestone with key joints, covered in on the top by two large horizontal slabs, having a doorway of squared stones and a sloping approach or dromos. Others were hewn into the rocky ground in an irregular shape, like a cavern, but always with a door of squared stones. On the present occasion I propose to deal rather with the contents of the tombs, showing you first some of the objects of most general interest, and then proceeding to the more special question of decorative patterns. You must, however, be prepared to see things which belong to a very early period of Greek history, earlier, in fact, than the strictly historical age of Greece. I put them at about 800 B.C., or perhaps even a century before that. But others must place them about six centuries earlier, unless they are prepared to give up the erroneous notions they have pushed so vigorously these last twenty-five years, as they are openly beginning to do. You must remember also that from the eastern point of Cyprus, a few miles from where we were, you can see the mountains of Lebanon; to the north the mountains of Asia Minor are plainly visible; with a fair wind a ship from Salamis would reach Egypt in a few days, coasting along Palestine. It was therefore to be expected that Cyprus would share in the arts and civilization of those older countries—Egypt, Phœnicia, and Asia Minor. We found numerous objects which had been imported directly from Egypt, others from Phœnicia exhibiting the mixture of Egyptian and Assyrian art for which the Phœnicians are famous; and again others in which we recognise a purely Hellenic spirit, sometimes acting upon and modifying Oriental conceptions, at other times introducing entirely new conceptions as well as new technical resources. At present I am inclined to think that this new Hellenic element had reached Cyprus from the adjacent coast of Asia Minor, and let me remind you that the earliest Greek poetry, the earliest philosophy, the earliest painting, were those of Asia Minor. The Greeks of the classical age may or may not have been right when they pretended that their kinsmen of Asia Minor had all been colonists from the little country of European Greece. But the fact remains that these kinsmen were chronologically far in advance of them in the liberal arts.

I attach much importance to two reliefs which occur on the two sides of an ivory mirror handle. The one represents a man slaying a gryphon, and is a subject with which we are familiar in the works of the Phœnicians, particularly among the antiquities found by Layard at Nineveh, dating about 800 B.C. The conception is obviously Assyrian in its origin. But added to that there is a breadth of style in the gryphon and a keen sense of the pain the creature is suffering which is finer in observation than anything I have seen in Assyrian or

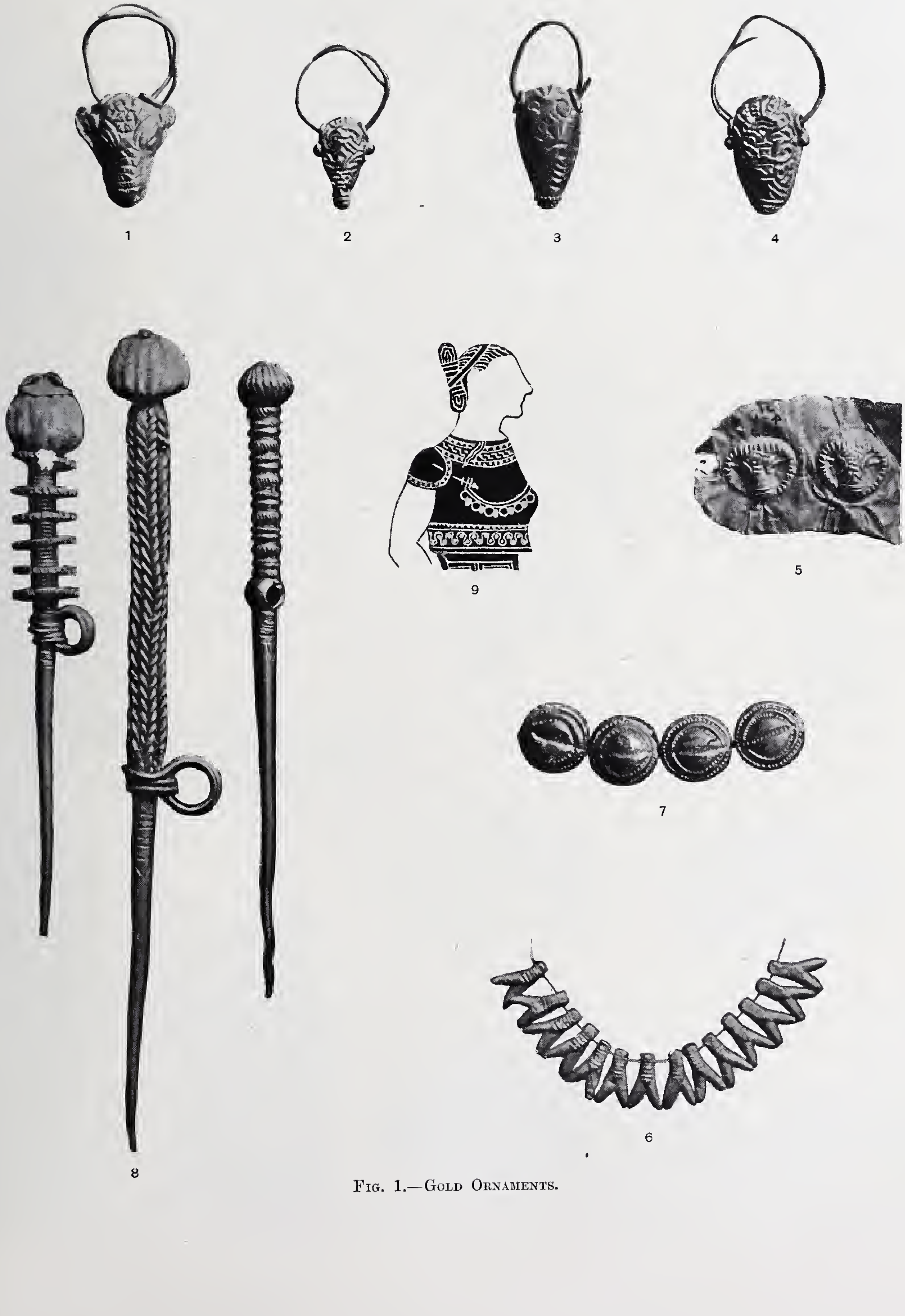

Fig. 1.—Gold Ornaments.

Egyptian art. Witness the open beak, the drooping wing, and the tail between the legs. The man wears a tiara-shaped helmet, carries a shield and a scabbard for his short sword, and is therefore not an Assyrian. According to fable these gryphons inhabited the rich gold-bearing districts of Northern Asia, and of course they had to be slain in the greed for gold. The other relief is a lion attacking a bull. That again is a frequent conception in Phœnician art. In no case, however, is the conception worked out in this striking manner. In order that the whole body of the bull may be visible and the available space of the ivory occupied to its fullest extent, the lion is ingeniously placed at the further side of the bull, while by a natural movement the bull's head is turned round to the side to avoid any vacant space. But what is most interesting is the breadth and style in the forms of the animals. If that is not a premonition of Greek genius, I do not know what it is. Many of you have, no doubt, admired the two beautiful gold cups now in Athens, which were found some years ago near Sparta, representing the capture of wild bulls. Great was the astonishment to find so much artistic power and so just an observation of animal life in works which belonged to a period anterior to the dawn of Greek history. But in our ivory there is, I think, even more cause for wonder at the degree of style it presents.

We may take next the sides of an ivory casket, the lid of which is divided into squares for the game of draughts on the same principle as the draught-boards of the Egyptians. But the art of the reliefs is not Egyptian. It corresponds rather to what is more familiarly known as Hittite art, the remains of which are found in Northern Syria and in Asia Minor. On each of the two long sides is a king hunting [*see headpiece*, p. 21]; on one of the short ends two bulls; on the other, two goats. Behind one of the chariots is a man carrying an axe, who wears on his head a helmet identical in shape with that of the Hittites whom Rameses fought on the coast of Northern Syria, as we know from the sketch of that battle on the temple erected by him at Medinat Abou, near Thebes. This is an instance in which the prevailing element is Assyrian. On to that is engrafted a certain rude observation of actual men and animals, unlike anything Assyrian.

These are the principal ivories. We may now take a group of three drinking vessels in porcelain. The porcelain itself is different in fabric from that of Egypt. Even more different is the style. One is in the form of a horse's head, which is singularly naturalistic and yet broadly treated in a spirit which seems Hellenic, and indeed differs chiefly from later Greek vases of this identical shape in the fact that it has no handle. None of these porcelain vases have handles. So also the one in the form of a female head may be described as the prototype of numerous similar Greek vases of the sixth century B.C., and the same may be said of the ram's head. Very possibly the idea of making drinking cups in the shape of human or animal heads was of a very ancient, even barbarous origin. But we are entitled to claim for these porcelain specimens that they exhibit the dawn of a true Greek artistic spirit.

The bronzes we found are chiefly weapons, implements, and utensils. We have a pair of finely made bronze greaves which will be useful in time as an argument in regard to date. Bronze greaves were not yet known in the time of Homer. Therefore our antiquities are later than the Homeric poems. We have also a curious square bronze stand, showing on each of its four sides the heads of two women looking out of a window, which have reminded me of several passages in the Old Testament, such as where Michal, Saul's daughter, looked out of a window and saw David dancing; or when Jezebel decked herself and looked out of a window; or when the mother of Sisera looked anxiously out of the window. The idea seems to be characteristically Palestinian, and I notice that Layard found at Nineveh four ivory tablets of Phœnician workmanship, each of which shows the head of a woman looking out of a window. I see no objection to taking our bronze as an illustration of the bronze stands or

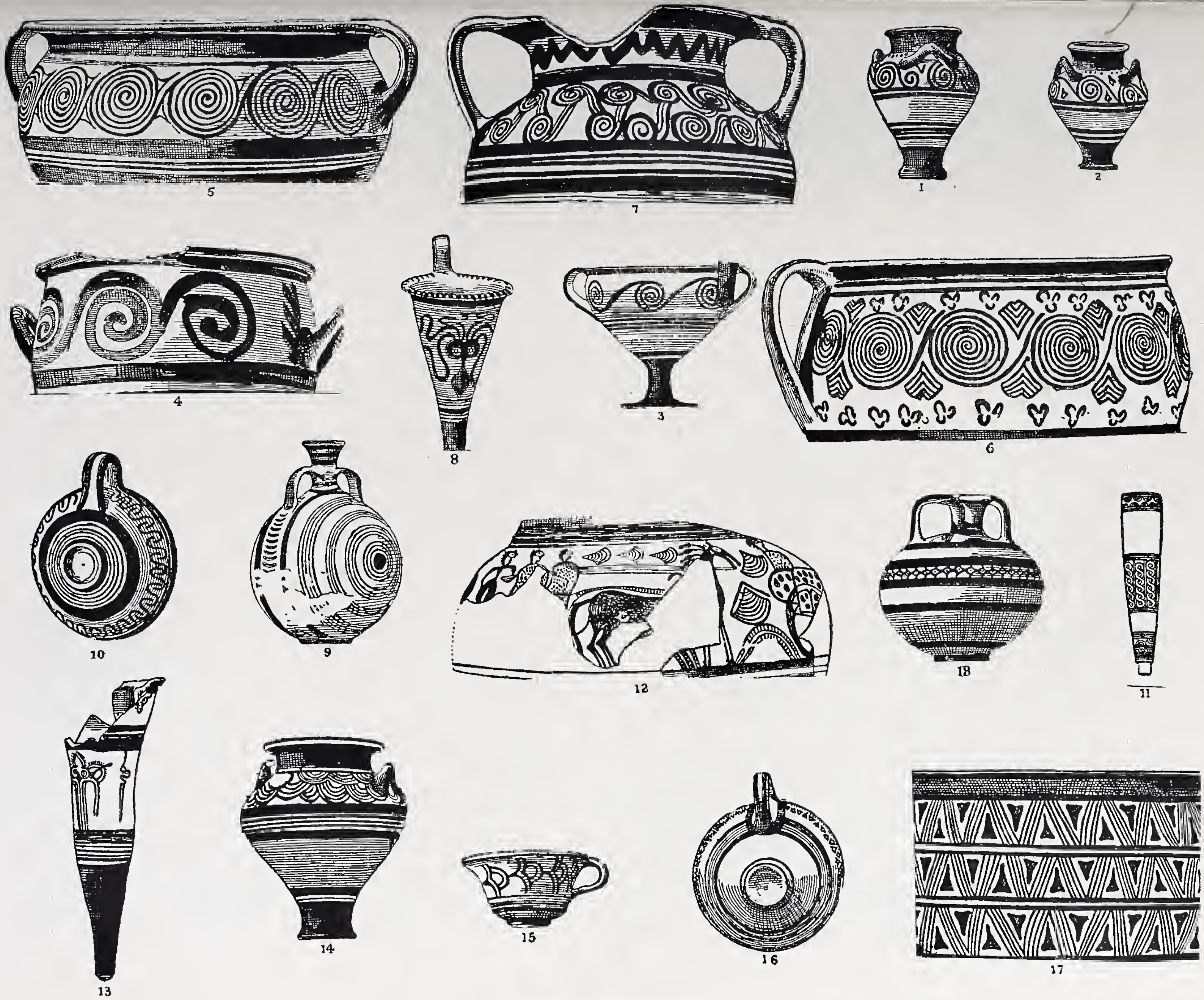

Fig. 2.—Painted Vases, &c.

bases which Hiram made for King Solomon. Our bronze does not stand on four wheels like Hiram's, but another specimen has since been found—most probably on our site—which does have the four wheels.

On one part of the site we came across a number of bronze utensils, shovels, tongs, field implements, the pans of a balance, and bronze vases which had been crushed together as if ready for melting. We supposed these things to be remains of a foundry, and this view is confirmed by a heavy ingot of bronze such as was exported for melting purposes. The ingot is in the form of an oblong slab with a sort of handle at each corner to lift it by, and having stamped on the sponge-like face of it a Cypriote letter, doubtless indicating its weight. On the pottery we found several instances of Cypriote letters, just enough to show that this curious alphabet was already in existence. But what surprised me from the beginning was to find in one tomb examples of pottery belonging apparently to the most primitive age side by side with the most developed stage of the Mycenæan industry. I could only conclude that these older shapes and methods of decoration had survived for the common purposes of daily life.

As I said at the beginning, our find was rich in gold. But for the most part the gold consisted of thin fillets or diadems on which designs were beaten out from moulds, the same mould being repeated over and over again on the same fillet. For the most part the designs consist of decorative patterns. Occasionally we have figures of sphinxes, heads of animals, and in one instance a human figure. But there were two exceptions, which I will now show you. The one is an Egyptian pectoral of gold inlaid with pastes of blue, orange, and white colour. You see such pectorals painted on mummy cases by the hundreds, but I do not know that any actual specimen has ever been found in Egypt. At all events, this is one which unquestionably had been imported from Egypt into Cyprus, and as it is agreed that the use of paste-inlays in place of precious stones did not begin in Egypt till nearly 800 B.C., we have in our pectoral a confirmation of the date which I have assigned to our antiquities from Enkomi.

Next, I will call your attention to three out of a series of gold fibulæ or peronæ, which were used by Greek women for fastening their dress on the shoulders. You will see how these pins were employed from a sketch in the diagram which has been made from the famous François vase in Florence [fig. 1, No. 9]. One of our pins is of exactly the same shape. The François vase is not older than the sixth century B.C.; but of course in this particular employment of fibulæ it may represent a custom several centuries older. On the vase the two fibulæ are connected by a chain, and as we found in the same tomb with these fibulæ a number of gold links, we have no hesitation in saying that they also had served the same purpose of connecting two fibulæ worn one on each shoulder. That again affords a useful argument as to date, and besides the use of fibulæ for fastening the dress is, so far as I know, as foreign to the ancient nations of the East as it is common in the bronze age of Europe. At the time of Dr. Schliemann's discoveries at Mycenæ it was stated that he had found no bronze fibulæ, and this was urged as an argument for an extraordinarily early date for his antiquities. But shortly thereafter, a bronze fibula of the ordinary safety-pin type was found at Mycenæ, and we obtained two more in Cyprus. So that this argument must disappear. You will observe that our gold pins are of a stiletto shape. Now Herodotus, in giving a short notice of early Greek costume, relates that after a battle between Athens and Ægina, a survivor of the Athenians reached home with the news of the overwhelming disaster which had befallen the Athenian forces. He was at once surrounded by women clamouring for news of their husbands, and they pulled out their sharp fibulæ to force answers from him, with the result that they killed him. Thereupon a law was passed forbidding Athenian women to wear these deadly pins. But in the rest of Greece, Herodotus adds, such fibulæ were still worn in his time. He does not say when the battle took place, and very likely the story was an invention such as he dearly loved. Nevertheless it comes in appropriately enough for our find in Cyprus.

In our excavations we found a certain number of Egyptian scarabs, including one which bears the name of the queen of Amenophis III., about 1450 B.C., according to the present uncertain chronology of Egypt. As it happened, Dr. Schliemann had found at Mycenæ a scarab of this same king Amenophis, and that was the principal reason why so many archæologists jumped headlong to the conclusion that the antiquities of Mycenæ must belong to the fifteenth century B.C. I pointed out in vain that Egyptian scarabs of even an earlier date, such as Thothmes III., were found with Greek vases of the sixth century B.C., and were regularly manufactured at that time. But of course there remained the possibility that the Mycenæan scarab had been a contemporary product, and that view prevailed. However, among our scarabs is also one of the much later Orsorkon dynasty of Egyptian kings, dating from the ninth century B.C. So that in the same set of tombs which, from their general contents, cannot have covered a period of much more than a century, we have scarabs of both the ninth and the fifteenth century B.C. They cannot both be contemporary with the kings whose names they bear. We must remember also that the Egyptian king Amenophis III. became a Greek hero under the name of Memnon. That explains why scarabs bearing his name were reproduced in comparatively late times for export among the Greeks.

Turning now to the decorative patterns which we found painted on vases and beaten up on gold, I must remind you that whatever interest these things possess, arises from the fact that they carry us back to the origins of industrial art in Greece. In most cases the patterns are direct prototypes of what we find in a more developed form in the classical age. But there are some curious exceptions with which we may begin. Here, for example, are specimens of gold earrings, in which we see first a bull's head, then a mixture of bull's head and decorative pattern, and lastly pure pattern [fig. 1, Nos. 1–4]. Is this an instance of degradation, from a naturalistic rendering of a bull's head down to a mere bit of decoration? Or is it, contrariwise, a gradual ascent from pattern to naturalism? You know how keenly such questions are discussed. But for myself, I must confess that nothing has struck me more in the course of our excavations in Cyprus, not only in 1896 but since then, than to find, side by side, representations of animal forms of the most extraordinary naturalism and the most primitive exhibitions of decorative skill. There can be no doubt now that among the craftsmen of the Mycenæan age there existed a remarkable gift of observation of nature, reminding one of some of the drawings on reindeers' horns made by the primitive cave-dwellers of France, but, of course, ours are accompanied by greater technical skill. We have also a number of examples of bulls' heads, in which the horns are curved downwards, to give a decorative effect [fig. 1, No. 5].

Among other instances of animal forms we obtained part of a necklace of gold flies, which had been strung together on wire passing through the eyes, each fly made from the same mould [fig. 1, No. 6]. An identical necklace has been found in Egypt, and our specimen may have been imported thence—though there was no need to go so far for flies, judging from our daily experience.

We found on the painted vases one or two illustrations of the cuttlefish, which, as you may know, is common on pottery of the Mycenæan kind [fig. 2, No. 8]. To this day the cuttlefish is a frequent article of food among the poorer people of Greece, and doubtless it was similarly appreciated in primitive times. So that a pleasant acquaintance with the creature may have suggested the copying of it for decorative purposes. But observe that there is more of pattern than of naturalism in the form it assumes. On that account it is

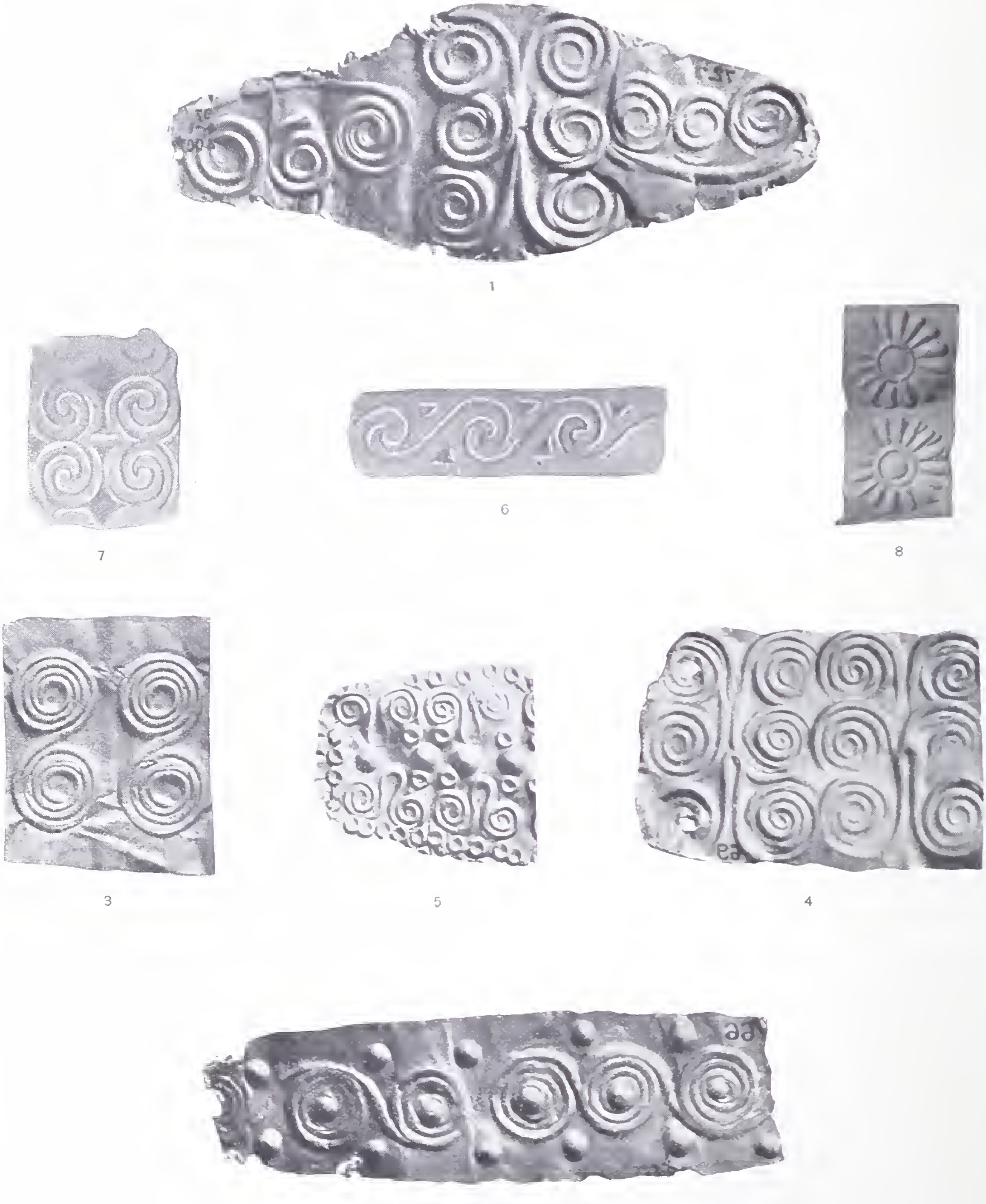

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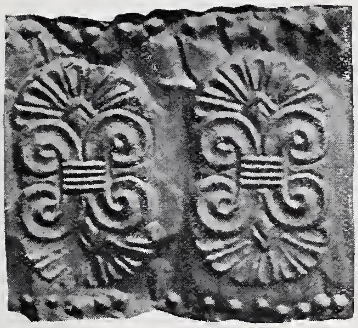
Fig. 3 (*continued on opposite page*).—Decorative Patterns.



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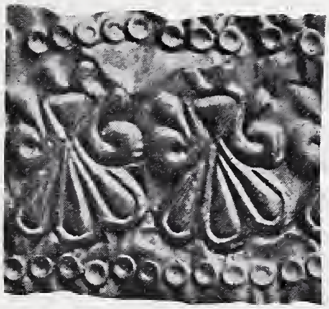

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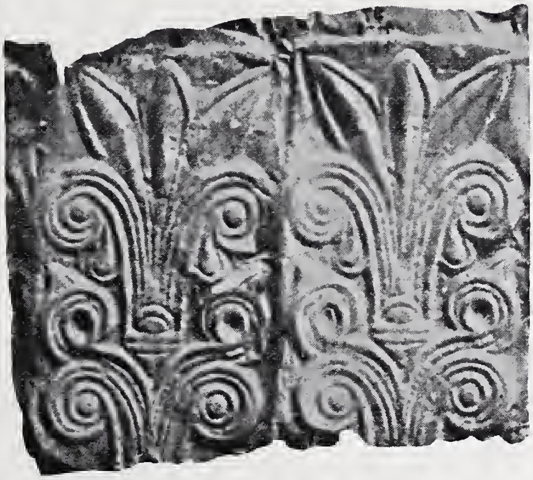

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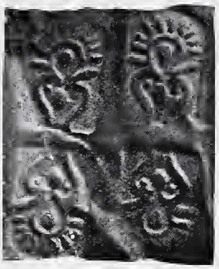

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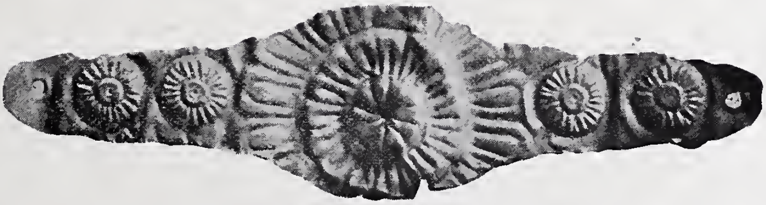

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Fig. 3 (*continued from opposite page*).

reasonable to suppose that a previous familiarity with spiral patterns, evolved in technical processes, had formed a basis of positive knowledge from which those early designers advanced towards the more speculative copying from nature. In one of the gold ornaments you see how readily a spiral pattern suggests a cuttlefish [fig. 3, No. 5]. We found also one or two instances of shell patterns, including the murex [fig. 2, Nos. 12–13], from which the purple dye was obtained, but no example of the nautilus or argonaut, so truly and so boldly drawn on Mycenæan vases from other sites. We have a gold necklace, apparently representing cowries, and quite identical in form with the cowries embossed on a gold ornament from Ashantee, also in the Museum [fig. 1, No. 7].

The most common pattern on our gold ornaments is the spiral—an unfailing characteristic of Mycenæan antiquities. The simplest stage is a double spiral, made by fastening down a bit of wire, then beating the thin gold fillet down on it and moving the gold along till the whole surface is covered with repetitions of the one pattern in a continuous line [fig. 3, No. 3]. In the diagrams I only give bits of the patterns. You must imagine these patterns repeated over and over again on one object. The next step was to connect a series of these double spirals by a tangent. On the pottery we sometimes have a row of single spirals connected by tangents, which at first sight look like a row of concentric circles united by tangents [fig. 2, Nos. 5–6]. Yet there is a difference, and much has been made of it, for this reason, that on the oldest, Dipylon, pottery of Athens, the rule is concentric circles united by tangents, just as on Mycenæan vases the rule is spirals so connected. It seems strange that so slight a difference should be so persistently maintained, all the more so because we found in our excavations several instances of vases covered with concentric circles, but, of course, not united by tangents [fig. 2, No. 9]. You will find also in the diagram two specimens of spiral pattern from among the many sculptured stones of Scotland [fig. 3, Nos. 6–7]. I give them because it is now not uncommon to read of a community of artistic instinct between the people of the Mycenæan age and the Celts of Europe, though I remember being well abused for pointing out something of that kind at the time of Dr. Schliemann's discovery.

The goldsmith, though hampered with having to repeat and combine the same pattern as best he could, shows a fair amount of skill, as you will see from the examples here given. He had not the freedom of the vase painter, who on one occasion has produced a combination of spirals, which in a small way reminds one of the sculptured slab found by Dr. Schliemann at Orchomenos [fig. 2, No. 7]. Simpler examples of the spiral on the painted vases are to be seen in fig. 2, Nos. 1–4. On the other hand, the goldsmith is more at home in plant life than the vase painter, so far as our excavations are concerned. For the most part the goldsmith was confined to long narrow bands or fillets which he had to decorate. The vase painter, no doubt, could, and often did, confine his chief decoration to a narrow strip round the vase. But he knew very well that he was more correct in principle when he made his design—say a cuttlefish—occupy the whole front of the vase as if it were an inherent part of the idea of the vase and not a casual decoration. The later Greek vase painters, with all their unrivalled skill, very frequently forgot this elementary principle.

But to return to our goldsmiths and their ideas of plant life. The rosette is of course common [fig. 3, Nos. 8 and 12], and the palmette equally so [fig. 3, Nos. 9–11]. In one of these instances we have a double palmette, which almost startles us from its resemblance to a pattern which hitherto was supposed to be characteristic of Greek vases of the sixth century B.C. [fig. 3, No. 10]. In another instance we have a complication of palmettes and spirals, which almost suggests a prototype of a Corinthian capital [fig. 3, No. 9]. As for the Ionic capital, there are constant suggestions of it [fig. 3, Nos. 1 and 4]. But no sign of the Doric. At the same time we obtained several instances of trees represented as growing, and sufficiently accurate to enable us to distinguish easily between a palm-tree and an olive. As regards the rosettes, a people accustomed to geometric patterns and possessed of a sense of symmetry would have no difficulty in finding in nature analogies to help them out in fashioning a typical rosette.

One of the most complete developments of the spiral is the guilloche. We found an excellent example incised on an ivory vase [fig. 2, No. 11]. A freer rendering of it occurs on a painted vase [fig. 2, No. 10]. The guilloche in one form or another held its place in Greek art for all time. Other patterns again seem to have disappeared with the Mycenæan age, such, for example, as the four on the diagram about which I have not yet spoken, and of which, indeed, I have nothing to say of any interest [fig. 2, Nos. 14–18].

In conclusion, let me repeat that our excavations in 1896 show, first a mixture of Egyptian, Phœnician, and Assyrian artistic influence, and, secondly, a strongly marked Hellenic element. From this curious and almost bizarre blending of art, I infer that the whole series belongs to a period when the eastern Mediterranean was the scene of constant struggles for supremacy on sea among rival Greek or semi-Greek peoples, somewhere about 800 B.C., but not later. I may add that the results of our excavations will shortly be published by the Museum in a book on which I have been a good deal engaged since 1896. But I thought that a brief notice of what we found might in the meantime be of interest to the Institute.

DISCUSSION OF DR. MURRAY'S PAPER.

The President, Mr. William Emerson, in the Chair.

Mr. J. L. MYRES (Christ Church, Oxford), in proposing a vote of thanks to Dr. Murray, said that it was a great stroke of that good fortune which came most frequently to those who most deserved it which resulted in that ox putting its foot into that particular hole in the fields round Enkomi. It was only when preliminary observations had been carefully made, and when information which, as everyone who had ever excavated knew, was of the most peculiarly unsatisfactory character had been carefully collected and evaluated, that the right inference could be attached to the symptomatic stumbling of oxen. What he meant was, that if the department of the British Museum over which Dr. Murray presides had not been on the look-out for remains of that kind, many oxen might have put their feet into many holes in Enkomi. They had to congratulate Dr. Murray very warmly upon the exceedingly able and thorough way in which the excavations were carried out. The results were to be seen in the British Museum, and formed one of the finest series of carefully tabulated and systematic work which had ever been on view there. The Museum, and Dr. Murray in particular, were to be congratulated on having unearthed a series of tombs which produced in proportion to their number so much interesting material; which had helped to solve so many problems for the archæologists concerned; and which had suggested so many new problems which he suspected would take a good deal more systematic observation and research to solve. These tombs, Dr. Murray indicated, belonged in the main to the period for which the provisional name of Mycenæan had passed into common use; at the same time, they seemed to represent a phase of Mycenæan culture, and of Mycenæan art in particular, which had not been represented in so full a measure before. Dr. Murray had alluded to a difference of opinion among archæologists in regard to the date to be assigned to the objects from Enkomi, but as their attention was directed more particularly to the decorative side of the results of the excavations, it would be out of place to enter at length into a controversy of that sort; he would rather dwell upon those points upon which everybody would be agreed. The most important of those points was, that whereas in Greece itself there appeared to be a vacant space between the later stages of the Mycenæan culture and the earlier stages of the Hellenic, it was in Cyprus, and so far as he was aware only in Cyprus hitherto (Crete, which was still unexplored, might possibly be an exception), that it had been possible to fill in the gap. Dr. Murray, he thought, would fully admit that, to whatever period the Mycenæan age as a whole was to be assigned, there were a number of indications that some parts of the find at Enkomi belonged to the later part of it. Dr. Murray had pointed out that a number of features occurred at Enkomi which indicated that the Mycenæan artists in Cyprus had already passed to some extent under the influence of Egyptian art of a period not so early as that suggested by some objects found in Greece itself. In the same way he had indicated on more than one example that there were signs of correspondence between the works of the Mycenæan artists in Cyprus and the art-styles of Assyria, of North Syria, and, possibly, even of Cappadocia and Asia Minor, of a period not by any means so early as that to which many people had been inclined to assign the Mycenæan culture as a whole. We were dealing therefore in all probability with a somewhat later prolongation of the Mycenæan age here in the Levant beyond the point at which, so far as could be seen at present, the series passed out of that stage in the Ægean. The result was that we seemed to be nearer to an explanation of the kind of circumstances under which what, when seen again half-open or nearly full-blown in the Ægean, was known as Hellenic art was inspired; and everybody would go the whole way with Dr. Murray when he emphasised as strongly as he did the fact that at Enkomi had been found an early stage of that peculiar genius for assimilating and converting to appropriate purposes elements of decoration, of motive, and so forth, which were in themselves foreign to the Hellenes. In the case of the reliefs in particular, a point that distinguished them from the work of the mainland of Syria, the mainland of Asia Minor, and the mainland of Egypt, of whatever period one chose to suggest, was that there was the greatest conceivable difference in the style and "go" of the composition between what was found at Enkomi and the buildings, so to speak, "made out of the same box of bricks" on the Asia Minor coast and elsewhere. The motive, for example, of the lion and the bull, and the motive of the miscellaneous hunting scene with chariots and wild and tame beasts together, occurred on the mainland on the three sides of the Levant. But it was only when one found the Ægean spirit extended into Cyprus, and taking from right and left and in front the dead materials which lay ready to its hand, that one got a scheme of design that was perfectly satisfactory. This, he supposed, was the mission that Cyprus to a large extent was fulfilling during the period immediately succeeding the downfall of the culture known as Mycenæan; and the great value of the excavations at Enkomi seemed to be that they produced such a mass of first-class material for the study of this transitional Art. With regard to that material, he should like to ask Dr. Murray in what way he regarded the metal work, ivory work, and other relief work at Enkomi, as standing to that class of bowls of embossed metal work, hitherto called Phœnician, of which a certain number had been found in Cyprus, and others, on the one hand in Egypt of a somewhat earlier date, and in Greece and the west, in the Hellenic series, at a date which could be approximately fixed, and which would seem to approach the date that Dr. Murray suggested for the series of objects found at Enkomi. The answer to that question would be particularly instructive as to the view to be taken of the extremely complicated industry of the early period and as to the possibility of Dr. Murray's dating. With regard to the decorative materials exhibited by Dr. Murray, no fuller or more complete commentary on the use of the spiral or of the concentric-circle motive could be found than this period, from the best time of Mycenæ onwards down to the latest traces of it in the Mycenæan world; and anyone who devoted himself to the study of this type of ornament and of its possibilities would find that the spiral motive had an almost magic power upon him. One other point in particular was worth studying with regard to this Enkomi art, which revealed a group of artistic appreciators almost unrivalled in the ancient world, confronted now with a new set of motives, and at the same time by no means failing in their appreciation of the small natural objects lying around them as a field for study. In the instinctive appreciation of natural forms as decorative motives, there were few departments of ancient art, and few of art at all, which were so suggestive as the Mycenæan cycle throughout, from its earliest beginnings in the pure freehand drawing of animals down to those later stages where it chose, on the whole not injudiciously, between the old naturalist motives, which it inherited from its place of origin, and the dead conventional palm and lotus motives which it acquired from the nearer East. In terms of the strongest appreciation of the new discoveries which Dr. Murray had expounded, the speaker begged to propose a very hearty vote of thanks to him.

Mr. A. H. SMITH, M.A., F.S.A., said that as it was his lot to go out to Enkomi to finish and bring to a conclusion the work that Dr. Murray began three years ago, perhaps a few words on the actual site and the nature of the diggings might be acceptable. The field of Enkomi was a gently sloping field, bounded on one side by low cliffs and sloping downwards towards the river bed. The whole of the field ultimately proved to be full of graves; the fact was entirely unsuspected until the ploughing ox put his foot through the roof of one of the tombs. It was a matter of great importance that until then it had been totally unknown, because for centuries it had been a recognised industry among the natives of Cyprus to dig their tombs for gold. Of this site happily they were wholly unaware, the result being that to an extent quite unusual in Cyprus the tombs were virgin tombs when they were entered. There was one, for instance, in which there were nails round the walls, with silver cups and other objects still hanging on the nails; these would hardly have been left if anyone had previously entered the tombs. At the higher part of the site the tombs were shallow, and in some cases built of masonry. At the lower part of the field the tombs seemed to be deeper, and as they were below the level of standing water, a great deal of the contents of each tomb came up in the form of mud in buckets, and the process gone through afterwards was very like that of the alluvial gold washings at Klondyke and elsewhere—the mud was washed out with water and the gold was left; but instead of being raw nuggets, the treasure was in the form of beads and other objects. Although the site was quite unsuspected, yet it was a region of old monuments. Close by there was the great prehistoric, half-sunk building now called the Chapel of St. Katherine; and there were two large tumuli which could be seen for miles over the plain, and which were well known to everyone who had travelled over that part; in both of these they sank a shaft, but found absolutely nothing. In the case of the principal tumulus, however, after tunnelling with considerable labour, a very fine masonry chamber was found; with great difficulty they dug through one of its walls and got in. It was found to be nearly full of earth, and there were holes in the walls, by which at some forgotten time two other parties had made an entrance, the result being that the tumulus yielded nothing whatever.

Professor ELSEY SMITH [*A.*], in seconding the vote of thanks, thought they ought specially to thank Dr. Murray for the exceedingly beautiful illustrations he had brought before them. The photographs were remarkably brilliant, especially when it was remembered that they were enlarged from comparatively small objects. Dr. Murray was particularly to be congratulated on his splendid find. There were, of course, a great many more districts in Cyprus that had been excavated for tombs. At the time when the Temple at Paphos was opened, a large number of tombs were excavated in that neighbourhood, a work he himself had had some share in. Dr. Murray had said very little about the construction of the Enkomi tombs, but, as far as he remembered, the tombs at Paphos were not entirely of masonry. Nearly all were sunk in the natural earth, but in all cases the doors were provided with slabs. In many cases the dromos was lined with masonry, and some of them were approached by extensive flights of steps—the largest having as many as twenty-five. He gathered from the Paper that some of the Enkomi tombs were actually constructed and roofed over, and not excavated in that way. With regard to the decorative treatment of the contents, it was a matter of great congratulation that Dr. Murray should have been able to satisfy himself that the whole of the contents of the tombs were confined to a somewhat limited period, as the illustrations showed so perfectly. The tombs at Paphos had been rifled and in some cases used over and over again, probably first by the Romans and afterwards for Christian sepulture, in which case it was invariable to find crosses cut upon the masonry for the purpose of sanctification. The objects found in that case were very mixed in period. Often there was work of a comparatively early period mixed up with later pottery and goldwork. In those tombs there was nothing at all so fine discovered in the way of ornamental work in gold or any other material, and most of the finds were later; but a large number of gold leaves were found apparently sprinkled over the bodies promiscuously. Referring to the fibulæ Dr. Murray had drawn attention to, they had found at Paphos, not in a tomb but amongst the rubbish in the Temple, an exceedingly beautiful example, now, he believed, at the British Museum, of considerably later date—it belonged to about 300 B.C. It was a bronze fibula in the form of a dagger, similar to those shown by Dr. Murray, but cased in gold and very beautifully engraved. It took the form of a small stiletto, with a head formed somewhat in the nature of a Corinthian capital, with four rams' horns at the angles, and acanthus leaves beneath. It had been illustrated in *The Journal of Hellenic Studies* in connection with those excavations.

Mr. HUGH STANNUS [*F.*] wished to thank Dr. Murray, personally and as a member of the Institute, for the exceedingly interesting and admirable manner in which this Find had been brought before the Institute. He felt with Mr. Myres that there was this great gap, from the dying-out of the Mycenæan civilisation to the incoming of the Dorian civilisation, which had to be bridged over in some way; and he had thought that finds such as those in Cyprus and the other islands in that neighbourhood would be the best means of solving that question. It might be said, of course, of that ox, that putting its foot into the hole was an accident; but all that need be said about that was that some people had more accidents than others, and that Dr. Murray was in that fortunate class. He had shown a scientific use of the imagination; he had known where to look and what to look for; and members were very much indebted to him for having brought these matters before them. Mr. Stannus desired to thank Mr. Myres, Mr. A. H. Smith, and Professor Elsey Smith for their words on this subject. If he ventured to say anything at all, it would be rather by way of provoking Dr. Murray further to give members the benefit of his ripe judgment in this matter. And, firstly, he would like to speak about those shapes among the diagrams which were so delightfully lotus-like. It appeared that the object 9 of fig. 3 was undoubtedly the lotus with two of the petals at the side. And in the object 4 of same, the ornaments might be either a degradation from the lotus, or they might be based on goldsmiths' work. They knew, for example, what a very ductile material gold was, and that the early peoples, in carrying about their worldly possessions round the neck or wrist, curled up the superfluous ends of the gold torque in a spiral shape, so that whenever there were spirals, one might almost say "gold." In all the great gold times these spirals were universal, so that it might be said they go together. Mr. Stannus had been able, armed with a letter from their old and venerated friend Dr. Penrose, to examine carefully the Mycenæan finds of Dr. Schliemann in the Museum at Athens. He was interested in the technique, and observed that the gold objects were made of thin sheet-gold pressed into matrices. In some cases the matrix was made of bone, and in other cases of hardened clay or stone, like lithographic stone. On the surface of the matrix the patterns were deeply scratched; the thin sheet of gold was then laid over it and with a blunt stilus the gold was pushed into the channels made by the scratching, and so embossed from the back; and all the objects shown in fig. 3 were done in this manner; and, by the overlapping, it can be perceived that the lower ornaments of No. 4 were done last of all, as they are stronger in relief and have obliterated the repeats above them. Dr. Murray had spoken about these as being Greek; and he (Mr. Stannus) would venture to ask him if they might not all be Hittite. The conical cap of the man on the ivory mirror-case appeared to be so. The island of Cyprus ran close to the Hittite country; and, bearing in mind that Hittite art was considered to be a kind of coarsened Assyrian art, one could see the connection. Referring to No. 10 in fig. 3: some of the Thrones shown in Layard's book were decorated with ornaments which were very similar; and this tended to strengthen the supposition. These ornaments seemed to him to be purely Assyrian. So also, No. 12 shows a band of Assyrian rosettes, which are like the spangles on the King's robe. These spangles would be made in the matrices; and here the two outer rosettes on each side are both of the same size, instead of a gradation in size which would have been seen if the artist had been hammering them; and thus the technique is apparent. He would further venture to ask Dr. Murray about the Octopod. In Dr. Schliemann's find there are at least forty examples. Each of them has a hole through it as if it had been worn for an amulet. Realising what a terrible fellow the octopod is, round about those seas, it might be that these were amulets. So also, he would ask—might the cup No. 8 in fig. 2 have belonged to a seafaring man (like that beautiful cup at the Museum which was found at Ialysos in Rhodes, a neighbouring island), and have been also an amulet? Those were the points one would like Dr. Murray's further opinion about. He desired to congratulate him very heartily upon being the means of finding these things and of enriching our National Museum. When he returned from Greece, he had felt a little saddened to see that, in this period in which Greece was so rich, we were so poor; and they were all glad that he, by that admirable find, had redressed the balance.

Mr. H. W. BREWER [*H.A.*], referring to illustration No. 17, fig. 2, observed that the decoration was very much like the basket-work which seemed to go through almost all ages, and asked whether any more of that pattern were found?

Dr. MURRAY replied that it was the only specimen.

Mr. BERESFORD PITE [*F.*] said that interesting artistic and decorative suggestions arose apart from the archæological interest of the subject. The Ionic volute occurred to his mind in connection with the theory of spiral forms derived from goldsmiths' work. One of the photographs, that of the ram's head drinking-cup, showed the Ionic volute in a form quite distinct from any origin, as Dr. Murray suggested, in connection with goldsmiths' work. There there was a suggestion of the volute of the Greek capital in the horns accentuated by the finely drawn lines of mere ornament as additions to the head drawn across the eyebrow, connecting the pair, as in the Greek column. He should like to remark also on Dr. Murray's interesting and valuable artistic criticism with regard to the breadth and style of decorative treatment of the animal forms in confined spaces shown in the lantern views. With regard to the subjects depicted on the ivories, he should like to ask whether the existence of the lion in the island of Cyprus could be ascertained by natural history researches, or whether it was an importation from that delightful source of lion-hunting which had given us those beautiful sculptures in the British Museum, and which children thought of when they read of Daniel in the Lions' Den; and if that natural history subject was pursued, one would be inclined to ask whether any skeletons of gryphons had been found. These might be supplied from London if that were not the case!

Mr. Wm. BRINDLEY, F.G.S., said that his first impression of the ivories was that they were Assyrian; and Mr. Beresford Pite's remark in reference to the lion might point to their being Assyrian, because there was no reason to suppose that there were any lions in Cyprus. Speaking of the importance of the find, and of the immense value of the ivories, he was under the impression that the late Sir A. Wollaston Franks had said that they alone were of sufficient value to pay for the entire expedition. The enlarged photographs of the ivories were more impressive than the ivories themselves; markings appeared on them which one was apt to overlook in the ivories. If these treasures were of the value that they unquestionably were, there was another consideration, not altogether of secondary importance, and that was taking care of them now we had got them.

As regards the British Museum, their treasures were properly cared for in the Gold Room; but at South Kensington something was desired in that respect. He was at South Kensington sketching a gold arm-ring that was found in the Oxus many years ago—an object which the South Kensington authorities had purchased for £1,000. It was a foggy day, and he could scarcely see the objects in the case, and it occurred to him that it was a very unsafe way to keep such treasures. He spoke to one of the policemen on duty about it, and his reply was that there was not much chance of its being taken. But odd to say, a fortnight afterwards a case only a few yards off was ransacked, and the contents carried off. He hoped that when the South Kensington Museum was extended care would be taken to have a properly built room for them to be put in. Further, with regard to this find from the Oxus, he noticed that the other portion was purchased by the late Sir A. Wollaston Franks, and went to the British Museum. In his opinion the South Kensington portion ought to go there also.

The PRESIDENT, in putting the vote of thanks, dwelt upon the intense interest such a Paper had in giving them an insight into the domestic manners and customs of a people at the dawn of Western art. The description of the fibulæ was interesting, and the incident from Herodotus—whether true or not—showed how impatient feminine nature was in those days. It was to be hoped that matters had improved in that respect; as nowadays the ladies were all armed with very similar weapons, only not so artistic in form. With regard to the similarity of ornamental details in the early periods of Western art in Cyprus, or with what were found in Phœnicia, Egypt, and Greece, it seemed to be put down entirely to the intercommunication between these countries, and to an influence exerted in Cyprus by the proximity of these older countries. But might it not also be due to an influence from a greater distance? This thought had been suggested by the ivory carvings, especially those representing hunting scenes and the bull and the lion; they struck him as being exceedingly like in character to some drawings and carvings he had seen in India. He remembered an ancient painted scene at Gwalior, and a carving at the Museum at Lahore, which strikingly resembled these hunting scenes. Then there were the Greek fret, the guilloche, and the Ionic cap, precedents for all of which were to be found in a slightly different form in India. It had been stated that India was the cradle of beliefs; might not India also have been the cradle of Art, and these influences have come from a common source at a greater distance than the immediately adjoining countries of Cappadocia and Greece and Egypt?

Dr. MURRAY, in responding, said he felt particularly grateful to those who had spoken that evening. Mr. Myres was well known at Oxford and elsewhere for the attention he had given to the study of the origins of Greek art and Greek industries, and, though they did not perhaps always agree, it had been a great pleasure to him (Dr. Murray) to hear the warm manner in which he had expressed himself as to this Find. He was glad the President had drawn out Mr. Arthur Smith. It was not part of his plan to speak of the excavations, but rather of the things that were found; but this gave him an opportunity of saying that as Mr. Smith went out to finish the work, he had by far the worst part of the task to perform. To begin with, it being the month of September, he had to live there in a very pestilential district, and had suffered in consequence from a very severe attack of fever. He need not say, because everyone knew, that whatever Mr. Smith had to do was done as well as it was possible for any human being to do it, so far as learning and skill were concerned. He was glad to have been given the opportunity of saying this much. Professor Elsey Smith—whom, by the way, he should like to congratulate very heartily upon his professorship—had told them some interesting things about the tombs he had seen opened at Paphos. The excavations carried out for the Museum last spring were directed to the site where, it was hoped, antiquities of the Mycenæan age would be found. He was sorry to say that these excavations were a great failure—they had to move to another quarter. Mr. Stannus knew so much more about classical patterns than he (the speaker) did, that it would be absurd to attempt to discuss such questions with him; but he thought that in the matter of spirals Mr. Stannus was perhaps wrong, because an English goldsmith had assured him that his way of making a spiral pattern was to get a bit of wire first, and solder it down in a spiral form, and then to beat his gold over it, not to beat the gold into a mould such as they had in the Museum. Whether the cuttle-fish was used as an amulet, and, therefore, was an object of terror more or less, he did not know. He thought the other idea of people taking to it because of its taste and usefulness for food was equally maintainable. What Mr. Pite said about the ram's head vase and the suggestion of the Ionic capital, was what everyone must agree to; he was glad he had called attention to it. With regard to Mr. Brindley's remarks as to the security of the things that they took such trouble to find, one never knew, of course, when one was safe; but they did the best they could to protect the things when they once got them. The question about one armlet being in Kensington and the other in Bloomsbury was one of those difficulties that both sides would have to agree about before it could be settled.

SIR ARTHUR BLOMFIELD, A.R.A. [F.]

ARTHUR WILLIAM BLOMFIELD was the fourth son of the well-known Bishop of London, and was born in Fulham Palace in 1829, a year after his father's elevation to the See. He was educated at Rugby and Trinity College, Cambridge, and he would have admitted with gratitude that he owed to the greatest of Cambridge Colleges much of that equipment of the true English gentleman which was characteristic of him. He took his degree in 1851, and was at once articled to Mr. P. C. Hardwick, architect to the Bank of England. The step was a very natural one; the era of church building had begun in earnest, and the patronage of a Bishop of London was extensive enough to guarantee a sufficiency of work to any one in whose welfare he was interested. but Blomfield was led to choose his career by something more than the mere hope of making a ready livelihood. He loved his art with conviction and with discrimination: trained in an office where Gothic was somewhat at a discount, the friend and fellow-traveller of Frederick Pepys Cockerell, with whom he made a tour in Italy directly the three years of his pupilage were completed, he threw in his lot at once with the new school, and from the time he started in a modest way in Baker Street till the day of his death Gothic was the style in which he worked with most ease, most enjoyment, and most distinction.

His first clients, as they were his last, were the clergy. Perhaps no architect has been concerned with more church work as originator, restorer, or adviser; from the village church to St. Saviour's, Southwark, from the parsonage to the Church House, it had become his prerogative to supply their wants: and he did this not merely as an architect, but as a son of the Church whose first object was to meet the needs of our services, even to the casting off of the bonds of time-honoured tradition. He went so far as to profess an open mind on the subject of iron columns: but whether he ever actually used iron supports, except in the not quite analogous case of the Great Hall of the Church House, is more than doubtful. But if it is as a church architect that he will be chiefly remembered, his secular work would have made an adequate practice in itself. Denton Manor, Sion College Library, the Fleet Street Branch of the Bank of England, the Queen's School at Eton, the Whitgift Hospital Schools at Croydon, are a few of the buildings in this class in which the architect felt that he had most nearly attained to his ideal. It is too soon to discuss the place which Blomfield will ultimately hold in the history of modern architecture, nor is this the place to deal critically with individual works, but we may at least say that the architect's own satisfaction in the restoration of St. Saviour's must touch a responsive chord in all those who admit that restoration is justifiable—and this is one of those cases where nearly all the arguments are on one side—while St. Mary's, Portsea, is an original work which anyone might be proud to father.

No man had a firmer hold on his clients, not only because his work consistently reached a certain level which the world had come to expect of him—he resolutely eschewed the flights of the younger school, which must either succeed or spell disaster—but also because he made friends of them. No one who came into touch with Blomfield could be insensible to the winning kindliness and courtesy of his manner, or miss the truth that the manner was an exact index of the man. He was a charming companion, intelligent and sympathetic, seasoning his conversation with something of the wit and humour of his father. Among his fellow-workers he was universally liked and esteemed, and the larger world of society rated him no less highly, for no man was less of a recluse. Though the story of his life was very much the story of his work; though his profession, its ups and downs, the gradual building-up of its honourable record, was all in all to him, still he liked nothing better in the hours of his well-earned leisure than to gather friends round him, and give himself up unreservedly to the enjoyment of the moment. He was the fortunate possessor of many of those social gifts which do not always belong to the hard-worked man of business. His acting, sacrificed latterly to other and more important calls on his time, was something quite unlike that of the ordinary amateur, and the rounded completeness of his "Daddy Hardacre" is an abiding memory with those who were privileged to see it. Blomfield looked the happy, as well as the prosperous, man. He had known little or nothing of the hard struggle which takes the steel out of many. His mind was free from those sordid cares which hinder the healthy development of the artistic faculties, but a man less well endowed or less conscientious could easily have wrecked the possibilities of a good practice, of which he made an accomplished fact. Honours fell thick on him: in 1888 he was elected an Associate of the Royal Academy, and in the following year received the honour of knighthood. The building of the English Church at Copenhagen, which fell naturally into the hands of the architect who had worked for the Prince of Wales at Sandringham, secured him the Order of the Dannebrog (third class). In 1891 he was Gold Medallist of the Institute. He succeeded Hardwick the younger as architect to the Bank of England, and held the position of consulting architect to several Chapters. But with all this he remained not only modest, but even retiring. Circumstances had made a public man of him, but the history of his relations with the Institute is a sufficient evidence of his distaste for publicity. He might have been President. It is, indeed, a strange anomaly that a man so eminent, who had been connected with the Institute for so many years, should never have occupied the Chair, but his refusal was couched in terms that left no room for misunderstanding on the one side or reconsideration on the other. His death was no less happy than his life—painless and sudden as he wished it to be—while no fitter resting-place could be found for a man who had no liking for the pomps of the world than the charming village of Broadway, where he had made his country home.

ARTHUR EDMUND STREET.

9, Conduit Street, London, W., *25th Nov.* 1899.

CHRONICLE.

Illicit Commissions.

The attention of members is directed to the following correspondence between the Secretary of the Institute and a large firm of manufacturers whose name is for obvious reasons withheld :—

17th Nov. 1899.

Dear Sirs,—A member of this Institute has forwarded me a circular addressed to him by you in which occurs the following sentence : "It is our intention to allow architects a handsome commission on all specifications of our productions."

As every member of the Institute, in consideration of his membership, enters into an obligation not to accept any trade or other discounts or commissions, it would be to your own interest to discontinue to make such offers to architects, who regard them as the reverse of complimentary, and incompatible with their professional dignity.

Yours faithfully,
W. J. Locke, *Secretary.*

The following reply was received :—

18th Nov. 1899.

Dear Sir,—We thank you for drawing our attention to the wording of circular, and much regret same ; fortunately but few have been sent out and no more shall be. When submitted for my approval, the casual glance I gave it did not strike me in the way you put it, or would never have been allowed. We are withdrawing the few that have been sent. Yours truly, ———

If members who receive circulars offering commissions would forward them to the Secretary, they would be dealt with in the above manner, and most probably equally satisfactory results would follow. Many firms err entirely through ignorance, and are glad to have the offence pointed out to them. In this way perhaps the annoyance so frequently experienced by architects might to some extent be modified.

Paris Exhibition, 1900.—International Congress of Architects.

The following official announcement, issued by the Ministère du Commerce, de l'Industrie, des Postes et des Télégraphes, and headed "République Française," has been received by the Secretary of the Institute :—

V^{e} Congrès International des Architectes, à Paris, en 1900.

I. *Origine du Congrès.*—Comme suite à la décision prise dans sa séance de clôture par le IV^{e} Congrès international des Architectes tenu à Bruxelles en 1897, décision instituant un Comité permanent des Congrès internationaux d'Architectes, les membres de la section française de ce Comité permanent, MM. Adrien Chancel, Edouard Loviot, Charles Lucas, Alfred Newnham (Lille) et Maurice Poupinel, ont demandé au Gouvernement français de vouloir bien comprendre un *Congrès d'Architectes* parmi les Congrès internationaux qui doivent se tenir à Paris pendant l'Exposition universelle de 1900.

Cette proposition fut agréée par le Gouvernement et M. Alfred Picard, Commissaire général de l'Exposition, avisa le Comité permanent que la Commission supérieure des Congrès avait décidé d'adjoindre aux membres du Comité permanent, et sur la proposition de ce Comité, un certain nombre de membres nouveaux, afin de composer comme suit la Commission d'organisation du V^{e} Congrès international des Architectes.

II. *Commission d'Organisation du Congrès.*—MM. Ch. Bartaumieux, A. de Baudot, Aug. Beignet (Angers), André Bellemain (Lyon), Ed. Bissuel (Lyon), Frantz Blondel (Versailles), Louis Bonnier, Adrien Chancel, Ed. Corroyer, de l'Institut, Octave Courtois-Suffit, H. Daumet, de l'Institut, Ed. Duchatelet, Lucien Etienne, H. Fernoux, J. Galinier (Toulouse), Ch. Gariel, Alph. Gosset (Reims) J. Guadet, Ach. Hermant. Frantz Jourdain, Léon Labrouste, J. Lisch, Ed. Loviot, G. Loquet (La Roche-sur-Yon), Charles Lucas, Alfred Newnham (Lille), Alfred Normand, de l'Institut, J.-L. Pascal, de l'Institut, Ernest Paugoy (Marseille), Maurice Poupinel, H. Pucey, G. Roussi, Paul Sédille, Emile Trélat, Emile Vaudremer, de l'Institut.

Bureau de la Commission d'Organisation.—Cette Commission composa comme suit son Bureau : *Président* : M. Alfred Normand, de l'Institut. *Vice-Présidents* : MM. Frantz Blondel (Versailles), Charles Lucas et Octave Courtois-Suffit. *Secrétaire général* : M. Maurice Poupinel. *Secrétaires* : MM. G. Roussi, H. Pucey et Alfred Newnham (Lille). *Trésorier* : M. Ch. Bartaumieux.

Sous-Commission exécutive.—La Commission plénière décida de plus de nommer une Sous-Commission chargée d'accélérer l'étude des questions relatives à l'organisation du Congrès et adjoignit. pour faire partie de cette Commission, aux neuf membres du Bureau, les sept membres dont les noms suivent : MM. Adrien Chancel et Ed. Loviot, membres du Comité permanent, membres de droit; Ch. Gariel, délégué principal des Congrès de 1900 ; Frantz Jourdain. H. Fernoux. Alph. Gosset (Reims) et Léon Labrouste.

Service de Correspondance et de Propagande du Congrès.—Enfin le service de correspondance et de propagande du Congrès, dépendant du Bureau et comprenant de droit le Président. le Secrétaire général et le Trésorier, fut divisé en trois sections sous la direction des Vice-Présidents assistés des Secrétaires :—

1re Section, Relations parisiennes : M. Courtois-Suffit, *vice-président* : M. G. Roussi, *secrétaire.*

2^{e} Section, Relations départementales : M. Fr. Blondel, *vice-président* ; M. A. Newnham, *secrétaire.*

3^{e} Section, Relations étrangères : M. Ch. Lucas, *vice-président* ; M. H. Pucey, *secrétaire.*

III. *Comité de patronage.*—Un Comité de patronage composé de Présidents d'honneur et de membres français et étrangers est en voie de formation : il comprend déjà des hommes politiques, de hauts fonctionnaires des Administrations publiques, des Artistes, des Publicistes et des Architectes de Paris, des départements et de l'étranger.

IV. *Règlement, Date et Charges du Congrès.*—Un Règlement du Congrès, conforme au règlement-type conseillé par l'Administration, a été arrêté ; il fixe la date du Congrès du dimanche 29 juillet au samedi soir 4 août 1900 ; la cotisation minima des membres adhérents à vingt-cinq francs et la cotisation minima des membres donateurs à cent francs. Les Administrations et les Sociétés peuvent s'inscrire au nombre des membres donateurs ou des membres adhérents et se faire représenter au Congrès par un délégué. Les Gouvernements étrangers sont sollicités de désigner des délégués officiels au Congrès.

V. *Programme du Congrès.*—Parmi les questions inscrites au programme du Congrès et qui, toutes, doivent présenter un intérêt international, sont les trois suivantes :—

1° *La Propriété artistique des Œuvres d'Architecture*, question maintenue au programme par le IV^e Congrès international des Architectes tenu à Bruxelles en 1897.

2° *L'Enseignement de l'Architecture* (Hautes Etudes et Enseignement professionnel), question étudiée et conservée au programme par les Congrès internationaux des Architectes tenus à Paris en 1889, et à Bruxelles en 1897.

3° *L'Habitation à bon marché dans tous les pays*, question inscrite sur la demande des architectes britanniques.*

Une Exposition de dessins originaux d'Architectes, des Visites de Monuments, une Soirée musicale et un Banquet compléteront le programme.

VI. *Carte, Insigne et Comptes rendus du Congrès.*—Les membres donateurs ou souscripteurs auront droit à une Carte personnelle et à un Insigne de membre du Congrès, ainsi qu'à toutes les publications (fascicules de documents préparatoires, procès-verbaux sommaires et comptes rendus *in extenso*) qui seront publiées par les soins du Gouvernement ou du Bureau et du Comité permanent. (Ces cartes, ces insignes et ces publications seront offerts aux Présidents d'honneur et aux Délégués des Gouvernements étrangers.)

Le Bureau du Congrès prépare un premier fascicule de documents, qui sera distribué à la rentrée des vacances et qui comprendra les procès-verbaux des séances de la Commission d'organisation, la Liste des membres du Comité de patronage, le Règlement *in extenso* du Congrès et une première Liste de membres donateurs et souscripteurs.

Pour le Bureau de la Commission d'Organisation du Congrès :

Le Secrétaire général,
MAURICE POUPINEL.

Le Président,
ALFRED NORMAND,
Membre de l'Institut.

The late Sir Thomas Deane, R.H.A.

At the General Meeting last Monday the Hon. Secretary took occasion to express the feeling of regret among members and the profession generally at reading the announcement of the death of their eminent colleague, Sir Thomas Deane, of Dublin. His name, said Mr. Graham, was familiar to us, and especially to architects of a previous generation, as a man of high distinction, as an architect who had done most excellent work, not only in Dublin, but also in Oxford and in London. Sir Thomas Deane was not a member of the R.I.B.A., but he was a member of the Royal Institute of the Architects of Ireland, which was allied to the R.I.B.A., and he was also a member of the Royal Hibernian Academy. Sir Thomas Deane's principal work was the Library and Museum at Dublin, for which he had received the honour of knighthood. Others of his works were probably well known to members, amongst the most conspicuous being the Museum at Oxford—conspicuous in many ways, not only because it was good architecture, but because it was one of those great works which came under the influence of Mr. Ruskin's teaching, and exemplified in a remarkable way the power exercised by Mr. Ruskin for a long period over many architects of experience like the deceased. Sir Thomas Deane was one of the com petitors for the Law Courts ; and he (Mr. Graham) remembered the very beautiful design that he prepared in conjunction with his partner Mr. Woodward. Sir Thomas was also one of the competitors for the Imperial Institute ; doubtless there were many present who remembered the remarkably fine design that he submitted for that building. It was in contemplation to have a short memoir of Sir Thomas Deane in the Institute JOURNAL, with a notice of his principal works.

The late Thomas James Flockton *F.*]

Mr. T. J. Flockton (of the firm of Messrs. Flockton, Gibbs & Flockton), whose death occurred on the 7th inst., in his seventy-fifth year, had been a Fellow of the Institute since 1888. The Hon. Secretary, in making the formal announcement to the Meeting last Monday, referred in appreciative terms to the long and fruitful career of the deceased, observing that Mr. Flockton was almost in himself an embodiment of Sheffield, for wherever one went in that city his hand was visible.

Mr. Flockton entered the office of his father, Mr. William Flockton, architect and surveyor, in 1837, at the age of thirteen, and was afterwards for a short time in the offices of Sir Gilbert Scott and Mr. John Johnson of London. He was engaged on railway work under Mr. John Fowler for some months. In the year 1845 he entered into partnership with his father, and ever since then was actively engaged in his profession until within a few days of his death. He erected, during his long career of sixty-two years' active work, no fewer than fifteen churches in and about the neighbourhood of Sheffield, and many of the banks and other important buildings of the town. He held for forty-one years the post of Surveyor to the Sheffield Church Burgesses, during which time the income of the Trust was raised from a comparatively small sum up to several thousands of pounds per annum, also the Surveyorship to the Town Trustees, Birley's Charity, Grammar School Trustees, and the Boys' and Girls' Charity Schools. He was for many years Consulting Surveyor to the Improvement Committee of the Sheffield Corporation. He designed the whole of the street improvements, and negotiated the greater part of the land purchases, amounting to about a quarter of a million of money.

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* Tout mémoire ou tout résumé de mémoire, relatif à ces questions ou à toute autre dont l'inscription au programme serait demandée, devra être adressé au Secrétaire général, M. J.-M. Poupinel, à Paris, 45, rue Boissy-d'Anglas, avant le 15 avril 1900, afin de pouvoir être porté à la connaissance des adhérents avant l'ouverture du Congrès.

Erratum.—The successful candidate in the recent Statutory Examination was Mr. C. A. Daubney, not *Danbury* as printed on p. 19 of the last issue of the Journal.

REVIEWS.

ARCHITECTURAL HISTORY.

The Column and the Arch. Essays on Architectural History. With Illustrations. By William P. P. Longfellow. 8o. *Lond.* 1899. [*Messrs. Sampson Low, Marston & Co., Ltd., St. Dunstan's House, Fetter Lane, E.C.*]

In his latest book, whose title, by the bye, rather suggests the discussion of statical problems, Mr. Longfellow has collected some half-dozen essays on architectural history in which he examines, with considerable insight and apt illustration, the character of the broader phases of European architecture, with particular regard to those styles which throw light upon the evolution of the classic order and the arch.

Mr. Longfellow passes by the Byzantine style as "a collateral development" in the great advance which he traces from the Lotus Column of Egypt, through Græco-Roman and Early Christian periods, to the Romanesque manner and the full achievement of the Renaissance. The Gothic is hardly touched on in these essays, for the author is of opinion that when the Romanesque style merged into Gothic the development of the older forms, that is to say the classic order and the arch, was finished. It is to be hoped, however, that one day we may have from his pen some account of that Gothic style which took its commencement from Diocletian's palace at Spalato, the arches there being set directly upon the capitals of columns without the interposition of any entablature, thus illustrating in a unique manner the climax of perfection in column-arch construction.

Of purely columnar forms the Lotus Column perhaps comes in for the fullest treatment, and the author points out very clearly that the Egyptians were a flower-loving people, that the ornamental basis of their decoration is floral, and that in their decorative use of floral motives there was a well-marked symbolism. "The favourite lotus, emblem of the resurrection and the sun, was a religious symbol, consecrated to the sun-god Osiris, and is the most abundant element of their [*i.e.* Egyptian] decoration." Statical functions were not completely expressed in the Lotus Column, which has, among others, this distinction, that instead of expanding, as all other capitals expand where they meet the superincumbent load, its square block, which takes the place of the classic abacus, is made very small—just large enough to receive the top of the bud, which is often smaller than the shaft.

In the next essay there are passages that would appear, even in a book which treats architectural history from a more or less popular standpoint, to need more qualification than Mr. Longfellow allows them; for example, the statement that "the size of the temple was increased by increasing the scale of the order, whose proportions were the same on a great scale as on a small; the smaller was as the photographic reduction of the larger," is surely hardly true even for academical and drawing-school purposes, and would scarcely, one would think, commend itself to the author of the *Principles of Athenian Architecture.*

But when we have said that here we have a book that treats an historical subject and lacks an index, and that the titles of the illustrations are printed only on a separate page of tissue paper, so that it is impossible to see title and picture at the same time, we have said the worst.

To the student who has but lately been poring over the cram-book of architectural styles, learning and, if possible, digesting dry facts which when properly dressed are intended to be read and, if possible, marked by a patient examiner, the perusal of these essays cannot fail to be a refreshment. At the same time there is a great deal in the book with which the busy practising architect would find himself in complete sympathy; as when, in the last essay, Mr. Longfellow remarks of St. Peter's at Rome: "If it contrasts sharply after all with every building of the true classic age, it only shows, like all great human undertakings, artistic, social, or political, how men build their best, and build otherwise than they intend."

A. Maryon Watson.

MINUTES. II.

At the Second General Meeting (Ordinary) of the Session, held Monday, 20th November 1899, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 20 Fellows (including 10 members of the Council), 16 Associates (including 1 member of the Council), 3 Hon. Associates, and several visitors, the Minutes of the Meeting held 6th November [p. 20] were taken as read and signed as correct.

The Hon. Secretary made regretful allusion to the decease of Sir Thomas Deane, of Dublin, and Thomas James Flockton, of Sheffield—the former a member of the Allied Body in Ireland, and the latter a Fellow of the Institute—and stated that a brief memoir of each would appear in the Journal.

A Paper on The Excavations in Cyprus in 1896 was read by Dr. Murray [*H.A.*], and illustrated by lantern views, photographs, and drawings, whereupon a discussion ensued, and a vote of thanks was passed to Dr. Murray by acclamation.

The proceedings then closed and the Meeting separated at 9.50 p.m.

THE MEDIÆVAL ARCHITECTURE OF CYPRUS.*

ARCHÆOLOGICAL investigation in Cyprus, formerly so difficult under the Turkish rule, has been greatly facilitated since 1878, when our Government undertook the administration of the island. Hitherto, however, enquiry has been for the most part confined to the remains of antiquity (see, for example, the Paper by Dr. Murray in the last number of the Journal, and that by Dr. Ohnefalsch Richter in Vol. III. p. 109). Considering that the architecture of the island under the Lusignan kings was so largely influenced by that of their mother country, it is fitting that its systematic investigation should have been undertaken by a French expert, and it is fortunate that the work has been entrusted to so capable and well-equipped an enquirer as M. Enlart, formerly member of the *Ecole de Rome.* M. Enlart is already well known to students of mediæval architecture as the author of an admirable work on the Romanesque and Transition churches of the dioceses of Amiens and Boulogne, and his *Origines françaises de l'Architecture gothique en Italie* has thrown much light on the influence of the Cistercian order on mediæval architecture in Italy. In 1896 he was commissioned by the Minister of Public Instruction to visit Cyprus, and the present work is the result of five months' study in the island.

The book commences with a general historical sketch of the kingdom of Cyprus, and is divided into two parts, the first dealing with ecclesiastical architecture, and the second with civil and military work.

M. Enlart devotes the first two chapters of the first part to the consideration of the general questions of the character and evolution of the mediæval architecture of Cyprus. Four Romanesque churches in the province of Karpas—the promontory which stretches out towards Asia Minor—are attributed to a period before the conquest of the island in 1191. They consist of nave and aisles, each terminated by apses, and covered with barrel vaults, a type of church common in the centre of France; and M. Enlart suggests that their presence is to be explained by the fact that in the twelfth century French architects practised their art on the coast of Syria, as is proved by the survival of a remarkable Romanesque church at Beyrout. When, however, the French took possession of Cyprus, the architecture which they introduced was the Gothic of their own country. Their earlier work was inspired especially from the north of France, with some differences necessitated by the climate and economical conditions. The construction presents some archaic features, but the decoration generally is not behind contemporary work in the mother country. During a second period, from the middle of the thirteenth to the middle of the fourteenth century, the influence of Champagne, and to some extent that of the south of France, can be recognised; this period produced works of great merit, with no trace of archaism. In the architecture of the third period, commencing about 1360, the influence of Champagne disappears, and is supplanted by that of the south of France. A fourth period, from the end of the fourteenth to the fifteenth century, is distinctly inferior, and shows a return to the construction and decoration of the Romanesque period.

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* Review of *L'Art gothique et la Renaissance en Chypre*, by Camille Enlart. Ouvrage publié sous les auspices du Ministère de l'Instruction publique et des Beaux-Arts. 2 vols. 8o., pp. xxxii, 756. 34 plates and 421 illustrations in the text. Paris, Ernest Leroux, 1899.

During the first Gothic period the proportions are fine, though rather low; wooden roofs over the aisle vaults were abandoned for flat concrete roofs, which involved the omission of the triforium. The earliest vaults are more or less archaic; the transverse ribs are wider than the diagonals, as in the French Transition; occasionally, too, we find barrel vaults, and semi-domical vaults to apses. The vaults of the second period are as light and perfect as in the best architecture in France; the rib springings are constructed *en tas de charge* in horizontal beds to a considerable height, and it is no doubt owing to this fact that the vaults have stood so well in a country subject to earthquakes. The use of pottery in these vaults is also remarkable: some, with an orifice in the soffit of the vault, are doubtless acoustic; in other cases large jars are embedded in the concrete above the springings of the vault to lighten the construction. From the middle of the fourteenth century, the vaulted construction becomes inferior, and there is a curious reversion to older forms—unribbed groined vaults, cupolas, and especially barrel vaults. In these later buildings, buttresses are generally suppressed, and the walls made uniformly thick throughout. The internal supports are generally cylindrical piers, the earliest of which have square capitals sculptured *à crochets*; later we find the octagonal capital, with or without sculpture; and during the fourteenth and fifteenth centuries most of the capitals are circular, without sculpture. The earlier windows are single openings, without tracery, which was not employed until about 1280. The character of the masonry throughout is good, and carefully executed.

The second chapter is an interesting study, showing from what sources individual works have been influenced, and indicating the special causes of such influences. Here M. Enlart's extensive knowledge of the architecture of his own country has stood him in good stead, and the whole chapter is an admirable example of the comparative method. Then follow thirteen chapters describing the churches in detail, with plans and numerous sketches by the author. The second part, on the civil and military architecture, is treated in the same manner.

The papers by Mr. Edward I'Anson and Mr. Sydney Vacher, in the R.I.B.A. TRANSACTIONS of 1882–3, describe and illustrate many of the buildings which are more exhaustively dealt with in M. Enlart's work, though he has intentionally avoided the duplication of their illustrations. The remainder of this notice may therefore usefully be confined to a few notes from M. Enlart's book on the buildings illustrated by them.*

The first building of importance which was undertaken after the French took possession of the island seems to have been the metropolitan church of St. Sophia at Nikosia [figs. 26–29], where they fixed the seat of the Latin archbishop of Cyprus. Although some fragments appear to indicate earlier work, the actual church was only commenced in 1209. The archbishop, Thierry, was a Parisian, his brother being succentor of Notre-Dame. This explains the similarity between the choir and transept of this church and certain buildings in Paris and its neighbourhood. The apse has an ambulatory without chapels, a plan which was adopted at Morienval about 1120, and was followed in the original plan of Notre-Dame, Paris, and at Mantes. The low transept, with an apsidal chapel opening out of the eastern side of each arm, resembles the plan of Poissy. The influence of Champagne is indicated by some details, such as the cornices of the ambulatory and transept [figs. 27 and 28]; Alix of

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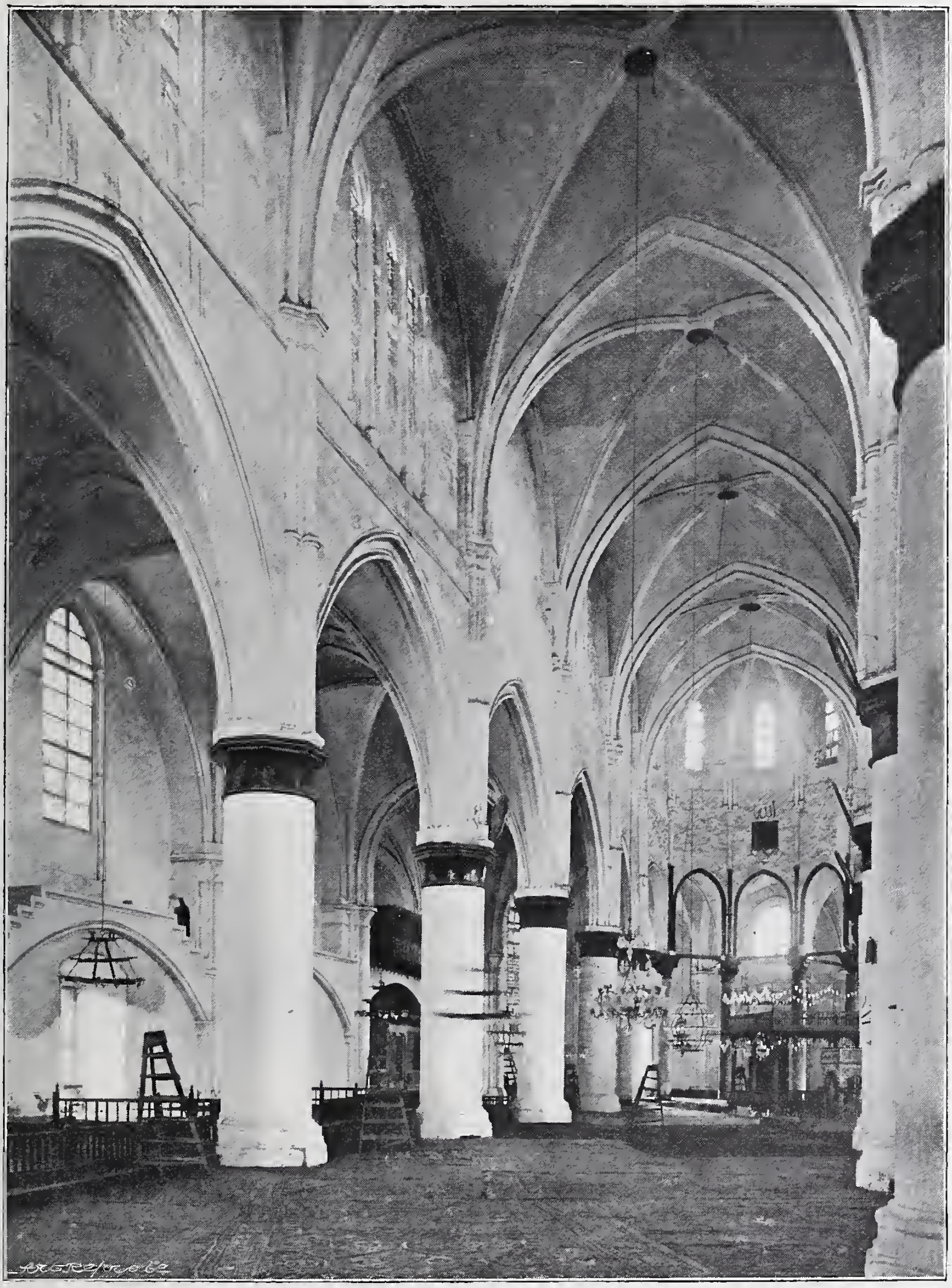
* All the references to figures which follow apply to the plates in the R.I.B.A. TRANSACTIONS of 1882–3.

Champagne was the queen of Hugh I. de Lusignan, who laid the foundation stone of the church, and she also held lands at Mantes. The wall passages in front of the windows of the nave aisles (see photograph) also indicate the influence of Champagne and Burgundy. The works were continued by Eustorge de Montaigu (1217–1251), and the nave aisles appear to date from his pontificate. The church is said by some historians to have been finished



INTERIOR OF CATHEDRAL, NIKOSIA.

in 1228, but this can only apply to the essential parts, probably the choir and transepts. The building was injured by an earthquake in 1267, and again in 1303. The upper part of the nave belongs to a third period, and was probably erected under archbishop Gérard de Langres (1295–1312), who was previously a canon of Sens. The west front dates from the early part of the fourteenth century, the porch having been finished by Jean de Polo (*d.* 1332), and the upper stage of the north-west tower is also attributed to him. An open gallery over the porch, in front of the west window [fig. 29], was apparently contemplated, but M. Enlart suggests that probably the arcade was never executed. He also agrees with Mr. I'Anson's opinion that the western towers were never completed. The church was consecrated in 1326, although it was not then finished. The absence of timber roofs is the chief feature which distinguishes the building from French work of the same period. In the earlier work, a very low pitched roof was adopted over one bay of the aisles, but this plan was abandoned in favour of flat concrete roofs, which again involved the suppression of the triforium stage (see photograph).

The cathedral church of St. Nicholas, Famagusta [figs. 7–14], is the finest example of the second period of Gothic art in Cyprus. The adaptation of French Gothic to local requirements is carried further, but in spite of this the architecture and sculpture follow the latest innovations in French art. Compared with contemporary buildings in France, it is not only in no way inferior, but it has the advantage of being more complete than any French cathedral of the fourteenth century. This period, so disastrous for France, marked the highest point of the prosperity of Cyprus. The plan of the church [fig. 12] comprises a nave of seven bays, terminated by a polygonal apse without ambulatory, the aisles being finished with apses of similar form. There is no transept.* The design of the *chevet* is very similar to that of Saint-Urbain, Troyes: the plan is the same, and in both we find the windows surmounted by high gables, with roses in the tympana, the same pinnacles, and the same traceried parapet. Another feature borrowed from Champagne is the outside gallery which surrounds the apse below the clerestory windows; here this becomes a balcony carried on large corbels. The west front [fig. 7] presents analogies to the cathedral and church of Saint-Nicaise at Reims. The three doorways have glazed tracery in their tympana, and are surmounted by steep gables. Between the towers is a great window with its gable, and the belfry windows are gabled in the same fashion. The church resembles the cathedral of Nikosia in the absence of timber roofs and triforium. The work was commenced at the beginning of the fourteenth century, and, after proceeding slowly at first, was energetically taken up by Bishop Beaudoin Lambert, and was probably completed in a few years. An inscription of his time, dated 1311, still survives [fig. 13], and records the progress of the work by stating the number of vaults then erected. The two eastern bays of the aisles and their apses were then vaulted, but none of the high vaults had yet been built. About the end of the fourteenth century a chapel with eastern apse was added on each side of the nave in the fifth bay from the west end: that on the north has been destroyed. The chapel opening from the eastern bay of the south aisle was added about the same time, or a little later. A sacristy is attached to the eastern bay of the north aisle.

The third cathedral, that of Paphos, has been destroyed, and, after the cathedrals of Nikosia and Famagusta, the most important ecclesiastical building in the island is the abbey of Lapaïs, or Bella Pais [figs. 49–58]. It belonged to the Premonstratensian order, which replaced the Augustinians at the beginning of the thirteenth century. The church, which dates from the thirteenth century, has an aisleless choir with square east end, transepts not projecting beyond the nave aisles, nave of two bays, and western porch of three bays in width. Its plan resembles in some respects the churches of the Cistercian order. In style it recalls certain Gothic churches in the south and centre of France, in its low cylindrical columns, wide proportions, arch mouldings, and in the manner in which the springings of arches and vaults are treated [fig. 54]. Some features are archaic for the date: the windows are simple lancets, and the transepts are covered with barrel vaults, although all the other vaults are ribbed. The vaults are covered with concrete roofs. The treasury over the north aisle, and the springings of the cloister vaults on the south and east sides, appear to date from the end of the thirteenth century; the chapter-house, the building on the east side of the cloister, the sacristy (chapel on Mr. Vacher's plan, fig. 49), and the cloister arcades are a little later; and the refectory and dormitory are later still. The buildings were probably finished during the prosperous reign of Pierre I. (1358–1369). M. Enlart assigns to the lay brethren the range on the west side of the cloister, and places the kitchen at its northern end. The refectory is on the north side of the cloister, parallel with the church [fig. 56]: in style it resembles fourteenth-century buildings in the south of France and Catalonia (cathedrals of Aix, Narbonne, Gerona, &c.). The building on the east side of the cloister comprises a great workroom (kitchen (?) on Mr. Vacher's plan) and the chapter-house, with the dormitory on the upper floor. M. Enlart compares it with the *Merveille* of Mont Saint-Michel. The fine situation of the abbey [see photograph] shows that the comparison is apt in more than one respect.

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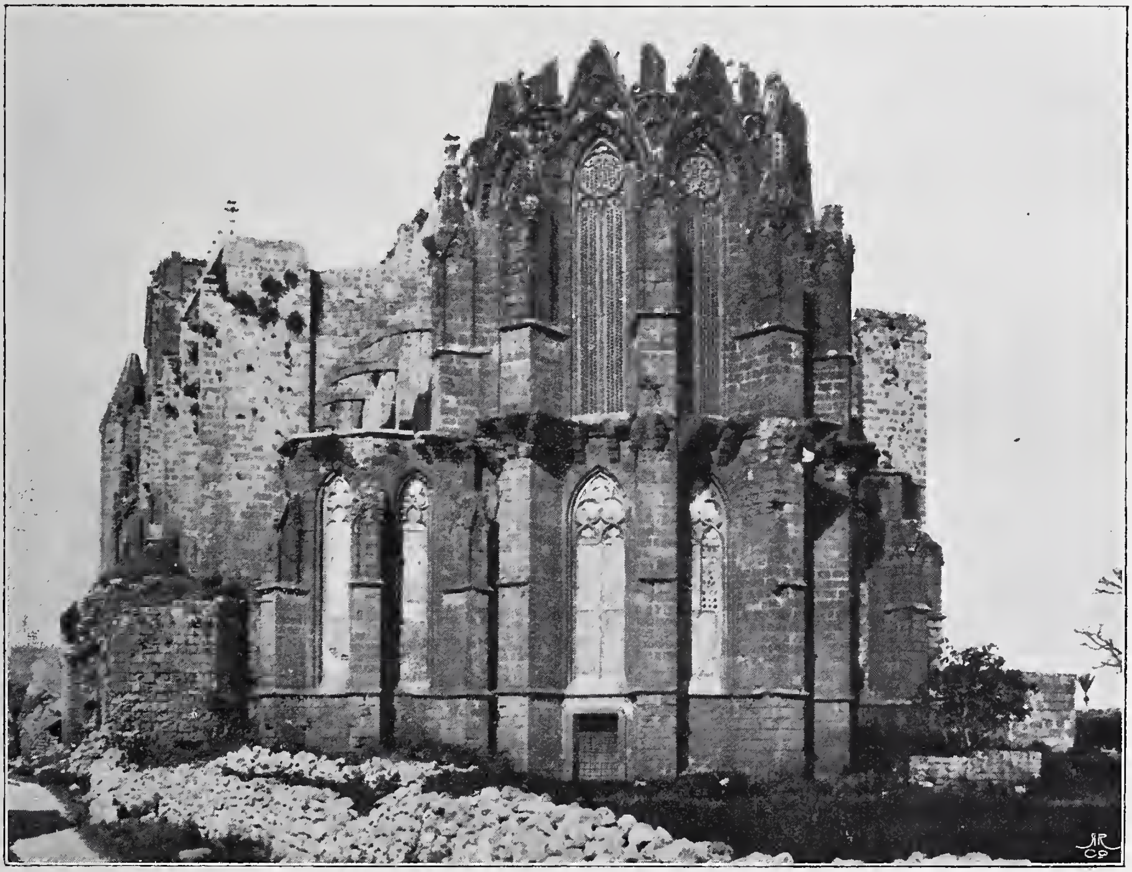
* An excellent set of measured drawings of the cathedral, by Mr. Vacher, has been published in the *Architectural Association Sketch Book*, new series, vol. ii. (1882), plates 70–72.



CATHEDRAL, FAMAGUSTA, EAST END.

The church of Saints Peter and Paul, Famagusta [Mr. Vacher's church B, figs. 20 and 21], is recorded to have been built by a merchant of the town during the reign of Pierre I. (1358–1369). The apses are covered with semi-domes, and the nave and aisles with ribbed vaults, the high vault being abutted by simple flying buttresses. The aisle walls have no buttresses. A stair turret is placed at the south-west angle, to give access to the aisle roofs. In style the church is imitated from the slightly earlier work in the cathedral, except the doorways, some details of which resemble thirteenth century work. This building, which is private property, is now used as a store by the Government, and M. Enlart expresses the hope that they may interest themselves to secure the preservation of so interesting a church.

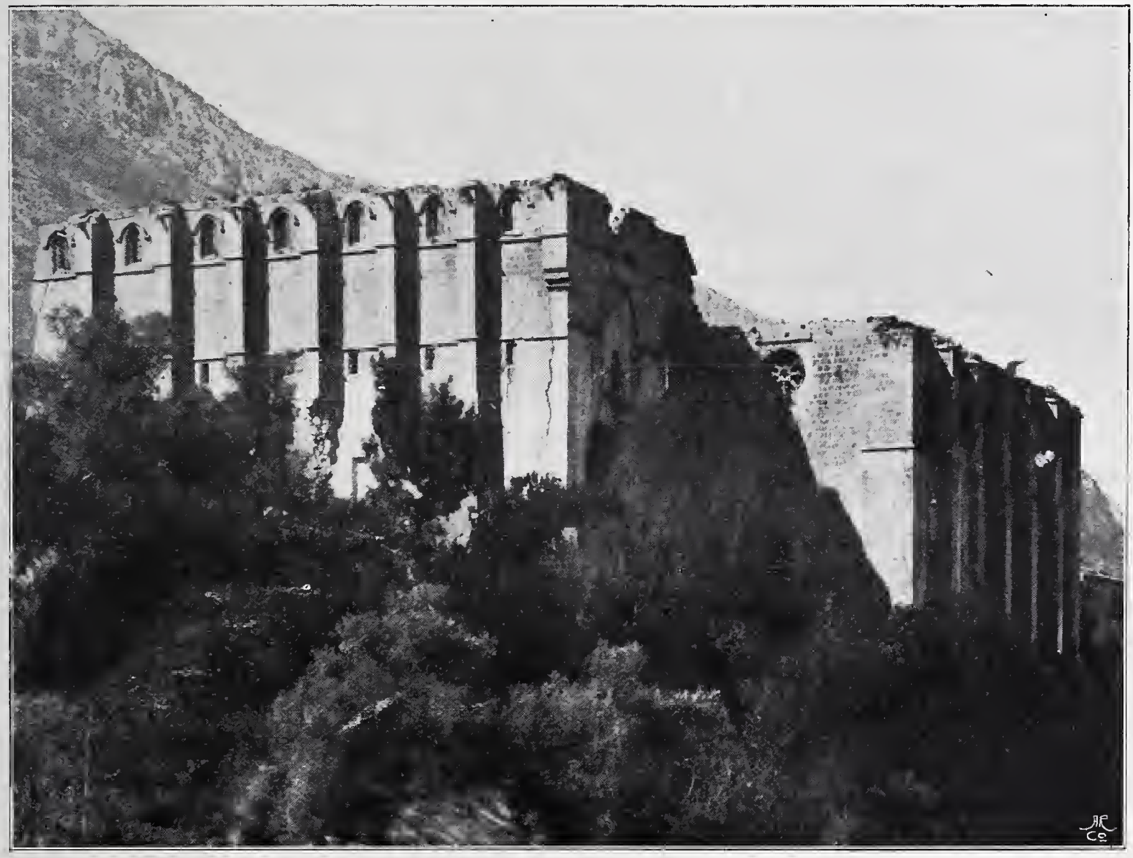
The Greek cathedral church of St. George at Famagusta [Mr. Vacher's church A, figs. 15–19] is attributed by M. Enlart to *c.* 1370. Its plan is almost identical with that of Saints Peter and Paul, and the two churches are vaulted in the same manner. The earlier church, Byzantine in style, was retained when the larger church was built, and M. Enlart thinks that the central cupola of this small church [fig. 16] was a reconstruction contemporary with the building of the larger church.

The Latin church of St. George, Famagusta [Mr. Vacher's church C, figs. 22–25], one of the most perfect in the island, represents a very common type of plan, which was followed in three churches in Nikosia, and at least eleven in Famagusta. This church may be attributed to the end of the thirteenth or beginning of the fourteenth century. Its aisleless nave is vaulted in three bays, with a polygonal apse of five sides; a sacristy is attached to the north-east side of the apse. The monastic church of Notre-Dame de Tyr, Nikosia [Armenian church, figs. 30–32), which was built 1303–1310, has a similar plan, except that the nave is of two bays only. The western bay, which was intended to be groined like the rest of the church, was left unfinished in 1310, and afterwards covered with a barrel vault. In design it strikingly resembles the cathedral of Nikosia. Another monastic church in Nikosia, St. Catherine [figs. 33–36], is very similar in plan, and is described by M. Enlart as a perfect and complete type of southern Gothic of the end of the fourteenth century. A treasury of two storeys is attached to the north-east side of the apse. The church of St. Anne, Famagusta [fig. 4], has a nave of two bays and polygonal apse, of the early part of the fourteenth century. Although the apse has a ribbed vault, the nave vault is groined without ribs, an archaism which is found also in the Nestorian church in Famagusta, erected about 1360, and influenced in style by the south of France. In the latter church, as in some others of this type, the apse is semi-circular, and covered with a semi-dome, and its doorway presents a curious survival of the Romanesque zigzag, as in the refectory at Lapaïs, which dates from the same period—a survival which lasted even into the fifteenth century in Cyprus.

The civil and military architecture of the island is also fully described by M. Enlart. He divides the military works into three classes:—1. Mountain castles, the arrangement of which is irregular, as necessitated by the site (St. Hilarion, Kantara, Buffavent); 2. Castles of the plain, of regular rectangular plan, with angle towers (Kyrenia, Famagusta, &c.); and 3. Single isolated towers, like Kolossi [figs. 59–64]. The military architecture does not differ much from contemporary work in France, until we come to the era of Venetian fortifications at the end of the fifteenth century.

Besides the French influence which dominated the architecture of Cyprus, whether ecclesiastical, civil, or military, the influence of the north-east of Spain can be recognised in the fifteenth century, due no doubt to intimate commercial relations and royal alliances. This Spanish influence, however, was soon eclipsed by the Italian Renaissance. Up to this time, Italy does not seem to have influenced the architecture of Cyprus at all; the case is different with regard to painting, which from the fourteenth to the sixteenth centuries is far more "Giottesque" than Byzantine. The remains of the Renaissance period are relatively not very considerable. However deplorable the capture of the island by the Turks in 1571 may have been, the neglect of Turkish rule has probably resulted in the preservation of more Gothic buildings than the continuance of the Venetian power would have left us.

M. Enlart's work does not deal with the Byzantine buildings of Cyprus. Considering that Cyprus was for long a point of contact between the two civilisations, Eastern and Western, it is very remarkable that, throughout the best Gothic period, the native Byzantine work does not appear to have influenced the architecture of the ruling race at all. This fact is not without significance in its bearing on the theory formerly accepted as to the Byzantine origin of Gothic architecture, although M. Enlart is careful to guard himself against assuming that this Byzantine work had no influence on the architecture of certain districts of France. In the later and decadent Gothic period in Cyprus, an unsuccessful attempt was made to combine Gothic and Byzantine features, but throughout the careful character of the masonry affords a complete contrast to the works of the native Byzantine builders, and even to-day the degenerate work of the local masons preserves some traditions of the Gothic period.


ABBEY OF LAPAÏS, NORTH-EAST ANGLE.

M. Enlart's book concludes with a chronological and geographical index, which is a most useful feature in a work of this kind, giving as it does leading dates of all the buildings which are mentioned in the text. The whole work, indeed, is distinguished by the admirable method and systematic analysis which characterises the best archæological work of our neighbours across the Channel. It is to be hoped that the book will attract the attention of English admirers of Gothic art, for the English administration of Cyprus can do much for the preservation of the interesting buildings which M. Enlart has so well described.

John Bilson.

THE LATE SIR THOMAS DEANE. R.H.A.

BORN AT CORK 1828. KNIGHTED AT DUBLIN 1890. DIED AT DUBLIN 8TH NOVEMBER 1899.

FOR more than half a century the name of Deane has been familiar in three generations of architects in Ireland. Sir Thomas Deane the elder, born in 1792, representative of a line of well-known builders and architects in Southern Ireland, was distinguished by knighthood as Sheriff of Cork City in 1830. Sir Thomas Deane the younger received knighthood as a distinguished architect sixty years later, and was for the fifty years closing this century a notable personality. His works and career recalled are an interesting illustration of the history, fashion, and progress of British architecture in an eventful period.

Dublin City in the last century, when it achieved much noble architecture, produced no eminent architect of Dublin birth, nor in the first half of this century either, and perhaps for the reason that there was little architecture to be done in it for the fifty years following the Act of Union but insignificant and commonplace work. It is true it had a few respectable architects, who founded a Royal Institute of the Architects of Ireland so far back as 1837 ; but when a revival of Irish progress came after the famine of 1847, and was marked by a hopeful national exhibition in 1853, it found a circle of architects, practitioners trained in local works, not of first class, and practically unconcerned with Gothic revivals or controversies of their calling in an outside world.

It was such a complacent community that two young architects of Cork, Benjamin Woodward and Thomas Newenham Deane, invaded about 1852, shocking proprieties of established methods of practice, and preaching a new gospel of architecture of an unknown Ruskinite cult. Mr. Ruskin himself visited Dublin, and in his lectures and writings lauded the young architects as men of the future dispensation. A first conspicuous building—their joint work—the Museum or Engineers' School of Trinity College, Dublin, gave them a timely opportunity to illustrate their faith. The novel building widely attracted popular favour by its charm of dignified palatial composition, and by its emancipation from all well-worn precedents of classic details ; for the designers had the courage to adopt cornices, string courses, and bold plinths and window compositions quite novel in such connection, and suggested by the Romanesque architecture of Southern France. The new departure, with its wealth of naturalistic and clever carving, and the introduction of hitherto unadmired Irish marbles, awakened local enthusiasm, and the new architects stepped at once into notoriety and favour with the public, if not with the older school of surprised architects.

Woodward's early death followed soon on this achievement. The last works of the associated architects in which his influence perhaps could be traced were the Natural History Museum at Oxford, the Crown Insurance Office, Blackfriars, London, and the Kildare Street Club, Dublin. Thereafter the spirit of these original works was carried on in many buildings by Deane alone, and his individual talent impressed on them.

Like all enthusiasts of the Gothic revival, young Mr. Deane turned early to ecclesiastical architecture. Opportunity came in restoration of the fine Cathedral Church of St. Canice, Kilkenny, and the more Irish remnants of architecture representing the Cathedral of Tuam, and he proved his capacity for restoring old work. In 1860, however, the Irish clergy and insular archæologists, following by some years on English example, had but arrived at the stage of study of Rickman and Parker's Glossary, and of demanding precedent and authority for all interpolation. A pedantry of this kind was not congenial to the original genius of Deane, whose personality appeared in new features and details. The inevitable storm of criticism and controversies, which may be read in the *Gentleman's Magazine* and building and antiquarian journals of forty years ago, must have been somewhat discouraging to a more advanced restorer of ecclesiastical architecture in Ireland. Deane was further a competitor, with a striking design, for the Church of St. Andrew in Dublin, and subsequently for St. Finbar's Cathedral, Cork. By that time, however, the clerical mind in Ireland had advanced so far as the Early French period, and Burges's design was enthusiastically preferred.*

Deane's long and busy life to the end was afterwards more concerned with secular architecture. In London he built another Crown Insurance office in Fleet Street. The first Crown Insurance office by Deane and Woodward was removed not long after its erection. At Oxford, following his museum, he built the Curator's House, the Clarendon Laboratory and Anthropological Museum, the new buildings of Christchurch, Sir Benjamin Brodie's house, and the Union Buildings. He was a competitor and prize-winner in the open Foreign Office competition of 1857, and a select competitor for the Law Courts and Kensington Museum completion. In Ireland his many works at private mansions included additions at Kilkenny Castle for the Marquis of Ormonde, and at Portumna Castle for the Marquis of Clanricarde. In Dublin the most distinctive personal works of Thomas Newenham Deane are the Scottish Widows' Assurance Buildings and the Munster Bank.

Subsequent to 1876, in connection with his talented son and successor, Thomas Manly Deane (pupil of Burges), his works bore some other sympathetic influence, which was natural. Among these were prominent the Commercial Insurance Offices, College Green; the Church of Ireland Training College, Kildare Street; a clever half-timbered town-hall at Bray; Royal Exchange Assurance Offices, College Green; McArthur Methodist Training College, Belfast (competition); and the Consumptive Hospital, Wicklow. His latest great work, the Museum of Science and Art in Dublin, was a final abandonment, under the pressure of the fashion of the day, of the Deane-characteristic architecture, and the building is clothed in the mantle of the new Classic renaissance, but with a certain independence from which no circumstances could dissociate the instincts of T. N. Deane.

By his force of character Deane became one of the most widely known of men in Irish society, though he was not of it in one sense. He was not a gregarious man; and, absorbed in pursuit of his practice, and living a retired life, he maintained friendship with brother architects and membership of the Irish Institute of Architects and of the Royal Hibernian Academy of Arts, although taking little interest in their corporate acts. In former years he had been a member of the R.I.B.A., but resigned in 1885. His instincts and sympathies lay rather with the party of "Memorialists" than with those holding belief in the advancement of architecture by corporate organisation.

For twenty-five years and until his death Sir T. N. Deane held only one public appointment, that of Inspector of National Monuments under the Irish Board of Public Works. In a genuine and patriotic devotion to his charge he exercised his office for a mere nominal salary, visiting assiduously remotest places and exposed coasts and islands, and facing western seas in any seasons.

THOMAS DREW, R.H.A.,
President of the Royal Institute of the Architects of Ireland.

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* It was in this competition that an impression prevailed among architects that the personal popularity and influence of the Deane family in Cork would give undue weight to their selection in their native city. It was then that a less influential local competitor was asked the meaning of his eccentric motto, "*Timeo Danaos.*" "That," said he, "is Latin for I fear the Danes."

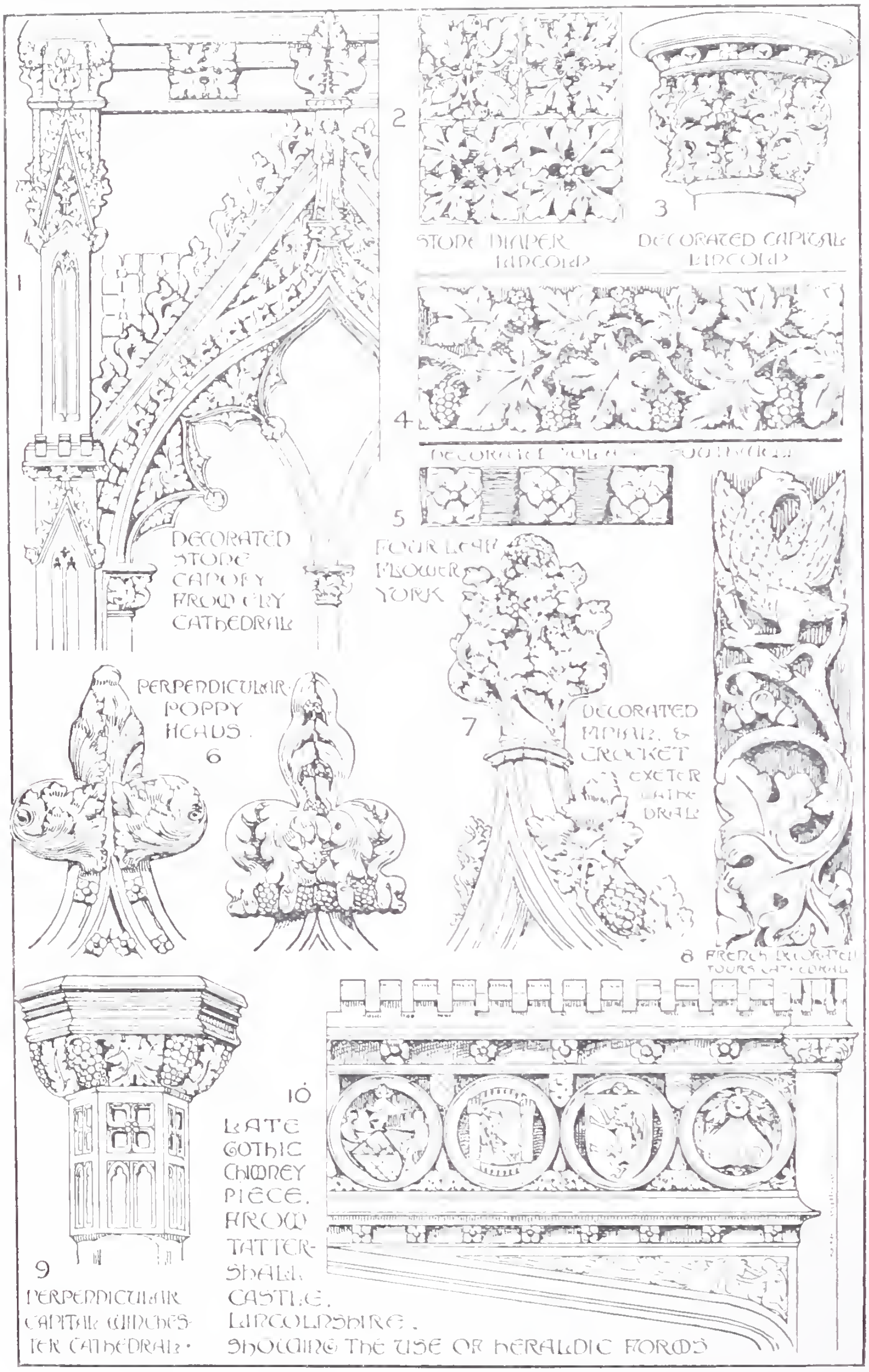
REVIEWS.

HISTORIC ORNAMENT.

A Manual of Historic Ornament, treating upon the Evolution, Tradition, and Development of Architecture and other Applied Arts. Prepared for the use of Students and Craftsmen. By Richard Glazier, Associate of the Royal Institute of British Architects; Head Master of the Municipal School of Art, Manchester. With 470 illustrations by the Author. Price 5s. nett post free. [B. T. Batsford, 94, High Holborn, London, 1899.]

This little work, while having no particular claim to originality, is generally well written, and sometimes interesting. It is also charmingly arranged, and the printing, illustrations, and binding are decidedly pleasing in appearance. It consists chiefly of short chapters on the history and character of practically every style of art as expressed both in architecture and the minor arts, including such little studied varieties as Oceanic, Scandinavian, Celtic, and Mexican, with, as a rule, a plate of illustrations opposite each page of letterpress. These chapters contain a great deal of information in a very condensed form, and display a considerable amount of knowledge. The criticism generally follows the safe path of pointing out for appreciation the acknowledged beauties of every style; analytical criticism or explanation of why a thing is beautiful occurring but seldom. Nevertheless, it does occur sometimes, notably in the chapter on capitals; and the work contains sufficient thought, expressed with felicity and terseness, to place the author above the rank of a mere apostle of the obvious.

The weak point of the book is that its range is too great to be thoroughly dealt with in its limited size, and consequently it cannot be regarded as complete


1
DECORATED STONE CANOPY FROM ELY CATHEDRAL
2
STONE DIAPER LINCOLN
3
DECORATED CAPITAL LINCOLN
4
DECORATED FOLIAGE SOUTHWELL
5
FOUR LEAF FLOWER YORK
6
PERPENDICULAR POPPY HEADS
7
DECORATED FINIAL & CROCKET EXETER CATHEDRAL
8 FRENCH DECORATED TOURS CATHEDRAL
9
PERPENDICULAR CAPITAL WINCHESTER CATHEDRAL
10
LATE GOTHIC CHIMNEY PIECE, FROM TATTERSHALL CASTLE, LINCOLNSHIRE, SHOWING THE USE OF HERALDIC FORMS

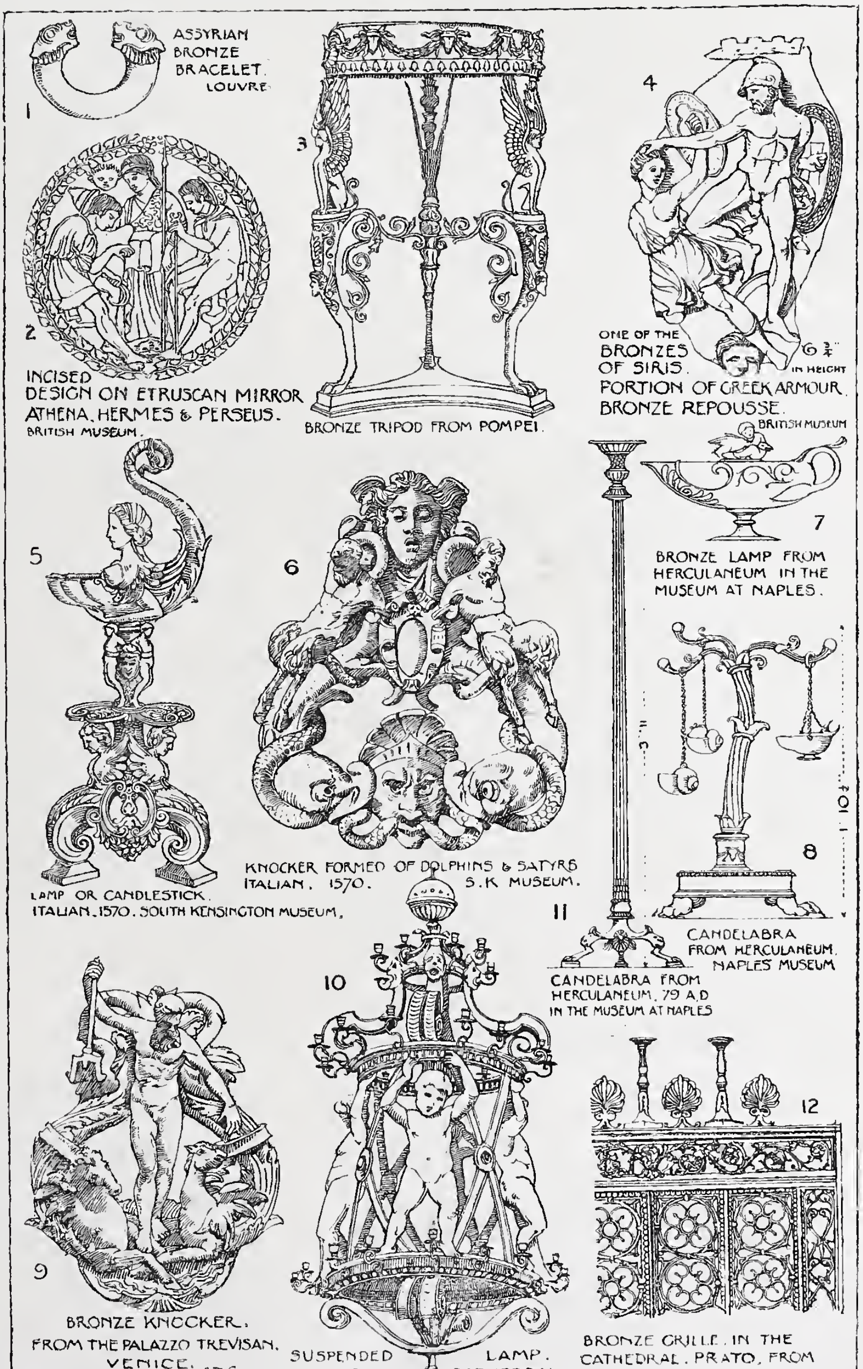
DECORATIVE AND PERPENDICULAR GOTHIC DETAILS. (Pl. 17 from Mr. Glazier's book.)

in itself. For instance, the chapters on the Renaissance, among others, simply bristle with the names and dates of buildings not illustrated in any way. Such tabulations are often useful, and are not necessarily to be deprecated, but they are useless unless the student can study the buildings or drawings of them at the same time.

The illustrations are numerous and generally good and interesting in themselves, but those which deal with architecture and architectonic arts lose in value from their fragmentary nature. Fragments of ornament given without reference to their position and surroundings are absolutely useless, so far as teaching a student their real value is concerned.

Occasionally references are made to the wrong figures or plates. On turning up a reference to the Doric capital we find the capital of the Monument of Lysicrates, and one to an Indian capital brings us to a plate of Chinese and Japanese ornament. Errors in spelling are also to be found, such as "trielinium," "tesserie," "Sansovenio," "Philipert de Lorme," "San Micheli," "Fontainbleau," "Venetion." Most of these are merely printer's errors, and some of them are spelt correctly elsewhere in the book. It may seem trivial to call attention to them, but a work for students is precisely the work in which they should not occur.

Those who desire a birdseye view of the art of all ages will find this, perhaps, the most compact and comprehensive work of its kind yet published. The student will find it useful as an index to studies which must be pursued with greater unity and more logical sequence elsewhere; and he will be



1
ASSYRIAN BRONZE BRACELET. LOUVRE
2
INCISED DESIGN ON ETRUSCAN MIRROR ATHENA, HERMES & PERSEUS. BRITISH MUSEUM.
3
BRONZE TRIPOD FROM POMPEI.
4
ONE OF THE BRONZES OF SIRIS. 6¾" IN HEIGHT
PORTION OF GREEK ARMOUR. BRONZE REPOUSSE. BRITISH MUSEUM
5
LAMP OR CANDLESTICK. ITALIAN. 1570. SOUTH KENSINGTON MUSEUM.
6
KNOCKER FORMED OF DOLPHINS & SATYRS ITALIAN. 1570. S.K MUSEUM.
7
BRONZE LAMP FROM HERCULANEUM IN THE MUSEUM AT NAPLES.
8
CANDELABRA FROM HERCULANEUM. NAPLES MUSEUM
1' 10½"
11
CANDELABRA FROM HERCULANEUM. 79 A.D IN THE MUSEUM AT NAPLES
9
BRONZE KNOCKER. FROM THE PALAZZO TREVISAN. VENICE. 16TH CENTURY.
10
SUSPENDED LAMP. IN PISA. CATHEDRAL. BY TACCA. 1600.
12
BRONZE GRILLE. IN THE CATHEDRAL. PRATO. FROM A DESIGN BY BRUNELLESCHI

BRONZES. (Pl. 33 from Mr. Glazier's book.)

helped by the valuable lists of text-books and works of reference which are appended to it.

J. HUMPHREYS JONES.

ART IN THE CHURCH.

The Parson's Handbook; containing practical directions both for Parsons and others as to the management of the parish church and its services according to the English use as set forth in the Book of Common Prayer, with an Introductory Essay on Conformity to the Church of England. By the Rev. Percy Dearmer, M.A. Price 3s. 6d. [London, Grant Richards, 9, Henrietta Street, 1899.]

This is a book, small octavo in size, containing 227 pages of closely printed matter on the subjects indicated above. Though intended solely for Parsons of the Church of England, it is likely to have a mixed reception among them. The ritualistic High Churchman will hail it with delight, while the Moderate, Broad, and Low Churchman are not likely to be so enraptured.

The new curate fresh from Oxford and the antiquated old country rector may here alike learn, if they so desire, how vestments, ornaments, and church furniture and upholstery may be brought up to date, or rather back to a date, and inform themselves about paschal posts, rood lofts, holy-water stoups, riddels, stocks, pontificals, houseling cloths, purificators, chalice veils, humeral veils, Lenten veils, corporas cases, towels, altar apparels, tippets, copes, chasubles, dalmatics, rochets, tunicles, and even verger's gowns. Information may be found as to sacring bells, the tenebræ herse, the standing pyx and the hanging pyx, gradines, and many other matters and things which the average living lay member of the Church of England has probably never before heard of.

The author states that "the object of this handbook is to help towards remedying the lamentable confusion, lawlessness, and vulgarity which are conspicuous in the Church at this time." He complains of the "want of liturgical knowledge among the clergy," and hopes that his book may assist in the practice of "catholic obedience." He writes in an appreciative vein of art and artists, and regrets that those who earn their living by writing and drawing are alienated from the Church because it has ceased to be a patroness of art: "the clergy have worked on purely commercial lines," and have ignored the competent artist and craftsman.

The working classes are also concerned, for vulgarity in art means cheapness, and cheapness means the tyranny of the sweater. "It has been pointed out that a modern preacher stands in a sweated pulpit, wearing a sweated surplice over a suit of clothes that were not produced under fair conditions, and, holding a sweated book in one hand, with the other he points to the machine-made cross at the jerry-built altar, and appeals to the sacred principles of mutual sacrifice and love." This is good, as is also the following passage, which might be read with advantage by many country clergymen, who, not infrequently, seem to regard the church and its surroundings as their own freehold: "The parish church belongs to the people, not only during service time, but all through the day. It is not the parson's private property; he is one of the trustees for it, and his duty is to keep it at the people's service," &c.

The alleged vulgarity in the Church "is due to the failure to recognise the principles of authority" in Art as in Religion. "We (the clergy) do not listen to the artist when he tells us about art, and we are surprised that he does not listen to us when we tell him about religion," &c.

Parts of the book contain judicious references as to lighting, seating, position and size of pulpits, organ chambers, and other features incidental to the structure, which may be worth the notice and perusal of church architects. "The parson should not try to tie down the architect to any popular ideas as to what is ecclesiastical." "A good architect's work is spoiled if nothing is asked of the builder but a low tender; and the only advantage of this cheap building is that it tumbles down after twenty or thirty years, and so the world is rid of it."

"No alterations or additions should be made in the architecture or furniture of a church until a faculty is obtained from the bishop. The cost of a faculty for minor alterations, if unopposed, is £2 2*s*."

The author suggests 38 to 42 inches as a good height for pulpits above their floor, and 36 inches as an average inside diameter, which latter dimension, however, seems too little. Lecterns should be 48 inches from platform to lower edge of desk. "Altars should be 3 feet 3 inches high: altars are nearly always too short nowadays."

Plain stone altars are stated to be "far the best." We were under the impression that the Communion table in the Church of England was required to be of wood, and that stone was illegal. It is true there are many old stone pre-Reformation altars in existence as relics about the country, some still in use, as, for instance, the very large one of the thirteenth century at the old monastery of Abbey Dore, in Herefordshire, the choir of which is now used as the parish church.

It is somewhat surprising that the author does not condemn the wretched deal boxes so frequently used for altars. To our thinking there is nothing more appropriate for the Communion table than a massive and artistic one of oak, showing well turned or wrought legs and framework; but as this type does not need or lend itself well to upholstering of velvet and embroidery it finds but little favour.

Most of the matters dealt with in the book fall outside the purview of an architectural journal, though there is much of general interest and many notes of archæological value on the pages.

JOHN COTTON.

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS 1834
INCORP. 1837 1887

9, Conduit Street, London, W., *9th Dec.* 1899.

CHRONICLE.

THE NOVEMBER EXAMINATIONS.

At the Business Meeting last Monday the results and other particulars of the various Examinations held by the Institute in London and at provincial centres during November were announced as below. In London the written and graphic portions were held at the Westminster Town Hall, and the oral in the rooms of the Institute. The examinations in the provinces were conducted by the Allied Societies of the respective districts.

The Preliminary: Newly registered Probationers.

Preliminary Examinations, qualifying for registration as *Probationer R.I.B.A.*, were held simultaneously in London, Birmingham, Bristol, Cardiff, Dublin, Manchester, and York on the 7th and 8th ult. Of the 154 candidates admitted, claims for exemption from sitting were allowed to the number of thirty-four. The remaining 120 were examined, with the following results:—

	Examined	Passed	Relegated
London	70	33	37
Birmingham	7	4	3
Bristol	7	4	3
Cardiff	7	3	4
Dublin	2	1	1
Manchester	14	8	6
York	13	10	3
	120	63	57

The successful candidates, together with those exempted, making a total of ninety-seven newly registered Probationers, are as follows:—

BEAUMONT: George Neville; 38, Bond Street, Wakefield, Yorks [Grammar School, Wakefield].
BERRY: Philip Roland; 23, Bolingbroke Grove, Wandsworth Common, S.W. [*Master*: Mr. W. A. Large].
BIRD: Hugo Ritchie; 40, Hilldrop Crescent, Camden Road, N. [*Masters*: Messrs. Gibson * & Russell *].
BOWELL: Henry Thomas; Conway House, Allandale Road, Stoneygate, Leicester [*Master*: Mr. J. Tait*].
BOWER: George Richard; Wentworth, near Rotherham [*Master*: Mr. W. J. Hale].
BRIGGS: Martin Shaw; Wharfebank, Otley, Yorks [Yorkshire College, Leeds].
BROWN: William Edward Arthur; 20, Bessborough St., Pimlico, S.W. [*Master*: Mr. George A. Lansdown].
BUCKINGHAM: Hubert Philip; 31, Mecklenburgh Square, W.C. [*Master*: Mr. T. Walter Moss].
BULLOCK: Ernest Havergal; Coomrith, Eastbourne [*Master*: Mr. William A. Pite *].
BURTON: Charles Frederick; 5, Fountain Terrace, West Hartlepool [*Masters*: Messrs. Barnes * & Coates *].
BYRON: Hugh; 29, Norfolk Street, Mile End, E.
CARRINGTON: Arthur John Pearson; 24, St. Mary Abbot's Terrace, Kensington, W. [*Masters*: Messrs. Wylson * & Long *].
CASHMORE: Edward Lascelles; 36, Carlyle Road, Edgbaston, Birmingham [*Masters*: Messrs. Doubleday & Shaw].
CHEDBURN: Noel Stewart; 2, King's Gate, Aberdeen [*Masters*: Messrs. Brown & Watt].
COCKRILL: Owen Hanworth; Northbury, 12, Euston Road, Great Yarmouth [Woodhouse Grove School, near Bradford].
COULSON: William Johnson Clark; 8, Whitehall Road, Gateshead-on-Tyne [*Master*: Mr. J. W. Wardle].
CRISFORD: Augustus Robert; Escalonia, St. Leonard's Road, Eastbourne [*Master*: Mr. Wm. Chapman Field].
CUMMING: Tarras Talfourd; 7, Christchurch Gardens, Reading [*Masters*: Messrs. Charles Smith * and C. Steward Smith *].
DACOMBE: Reginald Stainbank; Roseneath, Polygon, Southampton [*Master*: Mr. Ingalton Sanders].
DAKIN: Ernest Alfred; Long Whatton, Loughborough [*Master*: Mr. E. T. Allcock*].
DANIEL: Arnold Frost Hood; Hill End House, Henbury, near Bristol [*Master*: Mr. George H. Oatley *].
DAVIDSON: William; 4, Upper Gilmore Terrace, Edinburgh [*Master*: Mr. T. P. Marwick *].
DAVIES: Thomas Ellis; 72, Rockfield Road, Anfield, Liverpool [*Master*: Mr. Thomas Cook *].
DICKEN: Aldersey; 8, Westbury Road, Ealing, W. [*Masters*: Sir A. W. Blomfield & Sons].
DRU DRURY: Howard; Maisonnette, Woodville Road, Blackheath, S.E. [*Master*: Mr. E. Dru Drury *].
DUGGAN: Charles Cuddington; 51, Choumert Road, Peckham, S.E. [*Master*: Mr. J. M. Kennard *].
ELLISON: Robert Kitchen; Park House, Carleton, near Skipton, Yorks [*Master*: Mr. James Hartley].
FIRTH: Joseph Percy; Oakleigh House, Wakefield [Grammar School, Wakefield].
FLETCHER: Alfred Woodroofe, LL.B.; St. Anne's Passage, Manchester.
FORD: Sir Francis Charles Rupert, Bart.; Cathedine, Burley-in-Wharfedale, Leeds [*Master*: Mr. Samuel Edwards].
GILPIN: Archibald; Monkton Cottage, Chippenham, Wilts [*Master*: Mr. Henry Williams].
GRIFFITH: Gronwy Robert; Garn, Trefnant, R.S.O., Denbighshire [Shrewsbury School].
HAMPSHIRE: Ernest Llewellyn; 1, Hillsboro', Rye Hill Park, S.E. [*Master*: Mr. Ellis Marsland].
HANSOM: Theodore; 23, Eldon Square, Newcastle-upon-Tyne [*Masters*: Messrs. Dunn & Hansom *].
HAYWOOD: William; 14, Temple Street, Birmingham, *Pugin Student* 1897.
HENNELL: Sidney Thorn; 27, Rose Hill Road, Wandsworth [King's College School, Wimbledon].
HILL: Thomas Harold; Fernside, Hale, Altrincham, Cheshire [Cavendish School, Matlock].
HILLYER: William Harold; Knockholt, Ravensbourne Park, Catford, S.E. [*Master*: Mr. S. C. Tee].
HOFFMANN: George Spencer, B.A. Cantab.; Coombe Lodge, West Hill, E. Putney, S.W. [*Masters*: Sir Arthur Blomfield & Sons].
HOLMES: George; Oakwood Grove, Oakwood Lane, Roundhay, Leeds [*Master*: Mr. W. Carby Hall *].

HUDSON: Guy Louis; Thorn Châlet, Undercliffe, Bradford [*Masters*: Messrs. Mawson & Hudson].

IDLE: Martin; 99, The Chase, Clapham, S.W. [*Master*: Mr. H. W. Burrows *].

JACKSON: Edwin Arthur; 25, Queen's Road, Great Yarmouth [*Masters*: Messrs. Bottle * & Olley].

JEMMETT: William Barkham; 70, Dry Hill Park, Tonbridge [Tonbridge School].

JEWSON: Norman; St. Aubyn's, South Lowestoft [St. Aubyn's School, Lowestoft].

JOHNSON: Frank Garfield; 14, Cresswell Terrace, Neath, S. Wales [*Master*: Mr. J. Cook Rees].

JOHNSTONE: John Thomas; 39, Villa Road, Brixton, S.W. [*Master*: Mr. Lewen Sharp].

KEFFORD: Henry Withers; 562, High Road, Tottenham [*Master*: Mr. F. T. W. Goldsmith *].

LONGMAN: Francis William; 22, St. James's Square, Notting Hill, W. [St. Paul's Public School].

LEEPER: Leonard; Belton Rectory, Great Yarmouth [*Master*: Mr. J. W. Cockrill *].

LEES: John; 9, Tipping Street, Altrincham, Cheshire [*Master*: Mr. John Macnamara].

LEWIS: Horace Mersham; 3, Langborough Road, Wokingham, Berks [*Master*: Mr. A. E. Sidford].

LITTLE: Philip Stuart; 48, Sholebroke Avenue, Leeds [*Masters*: Messrs. Perkin * & Bulmer *].

LLOYD: Bernard Moseley; 16, George Street, Lozells, Birmingham [*Master*: Mr. T. G. Price].

LUCAS: Frederick James; Claremont, Avenue Road, Southampton [*Masters*: Messrs. Colson,* Farrow, & Nisbett *].

LUDLOW: William Henry; 20, George Street, Reading [*Master*: Mr. J. S. Dodd].

MAITLAND: Andrew Gordon; Academy Street, Tain, Ross-shire, N.B. [*Master*: Mr. James Maitland].

MANCHIP: Herbert John; 60, Grosvenor Road, Canonbury, N. [*Masters*: Messrs. Cubitt * & Collinson *].

MARTIN: Edgar James: 28, John Street, Bedford Row, W.C. [*Master*: Mr. E. Harding Payne *].

MARTIN: Francis Platt; 111, Ruskin Avenue, Manor Park, Essex [*Master*: Mr. Frederick Pinches *].

MARTLAND: John; Cove Cottage, Lathom, Ormskirk [*Master*: Mr. John Riding].

MASON: Cecil Julian Marsh; The Vicarage, Wigston Magna, near Leicester [*Masters*: Messrs. Simpson & Harvey].

MILNE: Oswald Partridge; 3, Dynevor Road, Bedford [*Masters*: Sir A. Blomfield & Sons].

MOON: Henry Alfred; 69, Vassall Road, Brixton, S.W. [*Masters*: Messrs. Whitfield & Thomas].

MOORE: Leslie Thomas; Ormesby Vicarage, Great Yarmouth [Norwich Grammar School].

MUFF: Edward Brantwood; 3, Upper Montague Street, Russell Square, W.C. [*Master*: Mr. William A. Pite *].

NEWCOMBE: Philip Clive; Erlsmead, Gosforth, Newcastle-upon-Tyne [*Master*: Mr. W. Lister Newcombe *].

OKELY: Charles Edward; 42, Cheniston Gardens, Kensington, W. [*Master*: Mr. J. H. Eastwood *].

PENLINGTON: Stanley Highfield; 6, Kingsland Crescent, Barry Dock, Cardiff [*Master*: Mr. E. H. Bruton *].

PETTER: John; 5, Howard Terrace, Roath, Cardiff [*Master*: Mr. Edwin Seward *].

PROCTER: Edward; 102, Tressillian Road, Brockley, S.E. [*Master*: Mr. George Baines *].

QUAIL: Edgar; Ark House School, Banbury, Oxon [Ark House School, Banbury].

QUÉRÉE: Hedley Cecil; 30, Elliott Road, Chiswick, W. [*Master*: Mr. T. E. Lidiard James *].

RAMSEY: Stanley Churchill; Oak Lodge, Benhill Wood Road, Sutton, Surrey [School of the Haberdashers' Company].

RIGG: Harold; The Grove, Lancaster [*Master*: Mr. P. B. Rigg].

ROGERS: Francis Albert; 83, Hanley Road, Stroud Green, N. [Polytechnic, Regent Street].

ROGERS: Gilbert Warren; 5, Templeton Place, Earl's Court, S.W. [King's College].

RUSHTON: Thomas Johnson; 26, Oxford Road, Ranelagh, Dublin [*Master*: Mr. W. Kaye Parry *].

SEARLE: Sydney; Hamilton House, Florence Road, Ealing, W. [*Master*: Mr. J. G. Broomfield].

SEELS: George Minard; 21, Whitfield Street, Newark, Notts [*Masters*: Messrs. Sheppard & Harrison].

SHARP: Herbert Firth; 1, Briggs Villas, Queensbury, near Bradford, Yorks [*Master*: Mr. J. Drake].

SHORT: William Cuthbert; 50, High Street, Taunton, Somerset [*Master*: Mr. C. H. Samson *].

SMITH: John Myrtle; 3, Hope Park Terrace, Edinburgh [*Masters*: Messrs. Scott & Campbell].

SPILLER: Reginald George; 31, Bridge Street, Taunton, Somerset [*Master*: Mr. F. W. Roberts].

SQUIRE: Herbert Balmanno; 6, Lauderdale Mansions, Maida Vale, W. [*Master*: Mr. Edmund Woodthorpe, M.A.*].

STEEL: William; 5, Joannah Street, Newcastle Road, Sunderland [*Master*: Mr. Frank Caws *].

STEPHENSON: Arthur Frederick Vere; 3, Rubislaw Terrace, Aberdeen [*Master*: Mr. R. G. Wilson].

STOKES: George William; Woodville, Cheadle Hulme, near Stockport [*Masters*: Messrs. Darbyshire * & Smith *].

STRUDWICK: Francis John; High Street, Ewell, Surrey [*Master*: Mr. Horace R. Appelbee].

THOMASSON: William Joseph Mate; Elgin Lodge, Arboretum Road, Worcester [*Master*: Mr. A. Hill Parker].

WALKER: Edward Holsworth; Cairnyran, Woodside Lane, North Finchley, N. [*Masters*: Messrs. Young * & Hall *].

WARTH: Albert Frederick; 4, Trafalgar Road, Mosely, Birmingham [*Masters*: Messrs. Reading * & Andrews *].

WATSON: Charles Spencer Owen; 5, Kensington Terrace, Newcastle-upon-Tyne [*Masters*: Messrs. Oliver,* Leeson, & Wood].

WICKENDEN: Arthur Fred; Avondale, Claremont Road, Tunbridge Wells [*Master*: Mr. W. Harmer].

WILLIAMS: Frank Warren; Woodcote Lodge, Wallington, Surrey [Hartley College, Southampton].

WILLS: William Francis: Littleover Hill, Derby [*Master*: Mr. John Wills].

WILSON: John Goddard; 76, Warwick Road, Maida Vale, W. [*Master*: Mr. Aston Webb, A.R.A. *].

The asterisk (*) denotes members of the Institute.

Intermediate: Newly registered Students.

Intermediate Examinations of candidates for registration as Student R.I.B.A. were held simultaneously in London, Birmingham, Bristol, Manchester, and York on the 7th, 8th, and 9th ult. In all sixty-five candidates were examined, with the following results:—

	Examined	Passed	Relegated
London	40	22	18
Birmingham	5	4	1
Bristol	3	0	3
Manchester	10	5	5
York	7	4	3
	65	35	30

The successful candidates, who have been entered on the Register of Students R.I.B.A., are as follows, the names being given in order of merit :—

CHAPMAN : Henry, jun. [*Probationer* 1896]; Seacroft, Westoe, South Shields [*Master* : Mr. Henry Grieves *].

RUSSELL : George Leonard [*Probationer* 1897]; Hainault House, Meynell Road, Hackney Common, N.E. [*Master* : Mr. Edmund Woodthorpe, M.A. *].

BEAUMONT : Chevalier Worby [*Probationer* 1895]; 100, Palace Road, Tulse Hill, S.W. [*Master* : Mr. H. O. Cresswell *].

BROWN : Edwin Dace [*Probationer* 1898]; 6, Trinity Street, Hastings [*Master* : Mr. F. H. Humphreys *].

BROADHEAD : Charles Alfred [*Probationer* 1898]; 378, Lenton Boulevard, Nottingham [*Master* : Mr. W. Dymoek Pratt].

SWANN : William Herbert [*Probationer* 1899]; 17, Gill Street, Nottingham [*Master* : Mr. Watson Fothergill].

HALL : John Percy [*Probationer* 1897]; 6, Victoria Grove, Kensington, W. [*Master* : Mr. E. Goldie].

BESANT : Ernest George [*Probationer* 1896]; 4, Harvey Road, Cambridge [*Master* : Mr. W. M. Fawcett, M.A.*].

BERRILL : Ralph [*Probationer* 1897]; 57, Gough Road, Edgbaston, Birmingham [*Master* : Mr. Alfred Reading *].

HODGSON : Charles Victor Tylston [*Probationer* 1895]; Harpenden, Herts [*Master* : Mr. Alfred Waterhouse, R.A.*].

VARNDELL : Charles Edward [*Probationer* 1896]; 286, Vauxhall Bridge Road, S.W. [*Master* : Mr. W. H. Seth Smith *].

WRATTEN : Edmund Livingstone [*Probationer* 1897]; Hellingley, Dingwall Avenue, Croydon [*Master* : Mr. James Williams].

JOSEPH : Ernest Martin [*Probationer* 1899]; 34, Inverness Terrace, W. [*Masters* : Messrs. Joseph,* Son, & Smithem *].

ONIONS : George Harry [*Probationer* 1897]; 32, Dudley Road, West Bromwich [*Master* : Mr. Alfred Long].

NASH : William James [*Probationer* 1898]; 12, Duke of York Street, Wakefield [*Master* : Mr. W. Watson].

WOOD : Joseph John [*Probationer* 1897]; 27, Cardigan Road, Leeds [Yorkshire College, Leeds].

CHILDS : Charles Michael [*Probationer* 1896]; 85, Albert Street, Regent's Park, N.W. [*Master* : Mr. E. W. Wimperis *].

OMAN : William Campbell [*Probationer* 1895] : 26, Tollington Place, Finsbury Park, N. [*Master* : Mr. W. J. Chambers].

TOWSE : Stanley [*Probationer* 1893]; Hillside, Ravensbourne Park, Catford, S.E. [*Master* : Mr. Leonard Stokes *].

BLAKEY : Richard Palin [*Probationer* 1896]; 12, Victoria Terrace, Sunderland [*Master* : Mr. George T. Brown].

HEWITT : Stanley Goodison [*Probationer* 1897], c/o Messrs. Grayson & Ould, 31, James Street, Liverpool [*Master* : Messrs. Grayson * & Ould].

MAYS : Ashby John [*Probationer* 1897]; West View, Yarboro' Road, Lincoln [*Master* : Mr. J. H. Cooper].

WIDDUP : Percival Sylvester [*Probationer* 1898]; 171, Preston New Road, Blackburn [*Master* : Mr. Walter Stirrup *].

SYMON : Alexander [*Probationer* 1898]; 4, Shawfield Street, King's Road, S.W. [*Master* : Mr. Curtis Green].

ELY : George Frederick [*Probationer* 1898]; Buxton Road, Disley, Cheshire [*Master* : Mr. John Ely *].

BILL : Harry Thomas [*Probationer* 1898]; 259, Birchfield Road, Handsworth, Birmingham [*Master* : Mr. Daniel Arkell].

CONDER : Alfred Rowland [*Probationer* 1898]; 40, Coolhurst Road, Crouch End, N. [*Master* : Mr. Alfred Conder *].

COUCH : William Edward [*Probationer* 1897]; 25, Linden Gardens, Bayswater Road, W. [*Master* : Mr. John T. Lec *].

GREGG : Theodore [*Probationer* 1897]; 1A, St. Helen's Place, E.C. [*Master* : Mr. Ebenezer Gregg *].

JONES : Lewis Austin [*Probationer* 1898]; 17, Queen's Road, St. John's Wood, N.W. [*Masters* : Messrs. Prothero * & Phillott].

LEE : Leonard [*Probationer* 1896]; 9, Hillmarton Road, N. [*Masters* : Messrs. Wimperis * & East *].

ROBERTS : Richard McMinnies [*Probationer* 1897]; Rock Villas, Latchford, Warrington [*Masters* : Messrs. William * & Segar Owen *].

WEST : Daniel [*Probationer* 1895]; Oakwood, St. John's Park, Ryde, Isle of Wight [*Master* : Mr. C. W. Bevis *].

WHEELER : Frederick Christopher William [*Probationer* 1895]; 6, Staple Inn, Holborn, W.C. [*Master* : Mr. Frederick Wheeler *].

WOODWARD : Charles [*Probationer* 1897]; 13, Southampton Street, Strand, W.C. [*Master* : Mr. William Woodward *].

The asterisk (*) denotes members of the Institute.

Final : Qualified for Candidature as Associates.

Final and Special Examinations, qualifying for candidature as Associate R.I.B.A., were held in London from the 17th to the 23rd ult. Of the forty-seven candidates examined, the following twenty-two passed, and, subject to Section 8 of the Charter, have become eligible for candidature as Associates :—

ALLEN : Francis Henry [*Probationer* 1895, *Student* 1897]; 28, High Street, Kettering.

ANSELL : William Henry [*Probationer* 1894, *Student* 1896]; 11B, Featherstone Buildings, Holborn.

BARROW : Spencer Ellwood [*Probationer* 1891, *Student* 1894]; Dalton Square, Lancaster.

BUCKELL : Francis William Ashton [*Probationer* 1892, *Student* 1898]; 97, Gower Street, W.C.

BYRNE : Thomas Joseph [*Probationer* 1897, *Student* 1898]; 24, Cranbrook Mansions, South Lambeth Road, S.W.

CHARLES : Bessie Ada [*Probationer* 1893, *Student* 1896]; 49, York Street Chambers, W.

CRAIK : David McLeod [*Probationer* 1893, *Student* 1896]; 71, Shirland Road, Maida Hill, W.

FOSTER : Alfred Herbert [*Probationer* 1896, *Student* 1897]; 19, Denbigh Place, S.W. [Australia.]

† FOSTER : Frank : 8, Duke Street, Adelphi, W.C.

HAMP : Stanley Hinge [*Probationer* 1896, *Student* 1897]; Park House, Alperton Park, Wembley.

HICKTON : John Harry Woodall; Westbourne Road, Walsall.

HONAN : Matthew [*Probationer* 1896, *Student* 1897]; c/o Messrs. Grayson & Ould, 31, James St., Liverpool.

ILLINGWORTH : Herbert Edward [*Probationer* 1893, *Student* 1895] : Larkfield Mount, Rawdon, Leeds.

KEIGHLEY : Alfred Ralph [*Probationer* 1892, *Student* 1895]; The Bents, New Brighton, Cheshire.

MOODIE : Thomas Anderson [*Probationer* 1890, *Student* 1895]; 10, Artesian Road, Bayswater, W.

SHIELD : James Edward Coleman [*Probationer* 1892, *Student* 1895]; 3, New Inn, Strand, W.C.

SPAIN : John Edward [*Probationer* 1897, *Student* 1898]; The Rectory, Rand, Wragby, Lincolnshire.

SPALDING : Reginald Henry [*Probationer* 1894, *Student* 1897]; 3, Lyndhurst Road, Hampstead, N.W.

†TAYLOR: Frederick; 26, Temple Street, Aylesbury, Bucks.

TRAQUAIR: Ramsay [*Probationer* 1894, *Student* 1896]; 15, North Villas, Camden Square, N.W.

TYRWHITT: Thomas [*Probationer* 1894, *Student* 1896], *Inst. Medallist* 1898; 36, St. George's Square, S.W.

WATTS: Harold [*Probationer* 1893, *Student* 1896]; 2, Hoe Park Terrace, Plymouth.

[† Candidates marked thus † were admitted to the Special Examination, under the following regulation:—"Architects in practice not less than 25 years of age, and chief assistants over 30 years of age, who desire to be admitted as Associates, can be exempted from passing the Preliminary and Intermediate Examinations and from sending in Testimonies of Study. They can be admitted, by resolution of the Council in each case, to a Qualifying Examination (namely, the Final of the three examinations), which is conducted with especial regard to the requirements of such architects, their professional works and position being duly taken into account by the Board of Examiners."]

The remaining twenty-five candidates have been relegated to their studies. The following table shows the number of failures in each subject of the Final Examination:—

I.	Design	23
II.	Mouldings and Ornament	16
III.	Building Materials	8
IV.	Principles of Hygiene	1
V.	Specifications	3
VI.	Construction: Foundations, &c.	3
VII.	Construction: Iron and Steel	4

The Cates Prize for Testimonies of Study.—The Board of Examiners report that, owing to the failure of Students to comply with the conditions attaching to this prize, they are unable to make the award.

The Tribunal of Appeal.

The appointment of Mr. Arthur Cates expiring by effluxion of time on the 31st December, the Council have reappointed Mr. Cates a member of the Tribunal of Appeal for the term of five years commencing the 1st January 1900, under sections 175 and 176 of the London Building Act 1894.

MINUTES. III.

At the Third General Meeting (Business) of the Session, held Monday, 4th December 1899, at 8 P.M., the President, Mr. William Emerson, in the Chair, with 13 Fellows (including 10 members of the Council) and 12 Associates, the Minutes of the Meeting held 20th November 1899 [p. 40] were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted and signed the Register, viz. Harry Dighton Pearson and Charles Dixon Rochester.

The Hon. Secretary announced the receipt of a large number of donations to the Library [*see* SUPPLEMENT], and a vote of thanks to the donors was passed by acclamation.

The Secretary announced the results of the November Examinations, Preliminary, Intermediate, and Final, and read the names of successful candidates.

The following candidates for membership in the various classes were elected by show of hands, under By-law 9:—

As FELLOWS (8).

FRANCIS WILLIAM BEDFORD [*A., qualified* 1891, *Ashpitel Prizeman* 1890, *Owen Jones Student* 1891–92] (Leeds).

JAMES GARRY (West Hartlepool).

JOSIAH GUNTON.

EDWARD JOHN LOWTHER [*A.*].

ROBERT FALCONER MACDONALD [*A., qualified* 1889].

HERBERT READ [*A., qualified* 1889].

THOMAS TALIESIN REES [*A., qualified* 1892] (Birkenhead).

FRANCIS WILLIAM TROUP [*A., qualified* 1889].

As ASSOCIATES (16).

RAYMOND TURNER BARKER [*Probationer* 1890, *Student* 1898, *Qualified* 1899].

HENRY THOMAS BROMLEY [*Probationer* 1893, *Student* 1897, *Qualified* 1899].

HERBERT HENRY DUNSTALL [*Probationer* 1891, *Student* 1893, *Qualified* 1899] (Chatham).

HUBERT ERNEST GILFORD [*Probationer* 1895, *Student* 1897, *Qualified* 1899] (Redhill, Surrey).

CHARLES HALE [*Probationer* 1895, *Student* 1897, *Qualified* 1899] (Kettering).

JOHN HUNT [*Probationer* 1890, *Student* 1894, *Qualified* 1899].

GEORGE ERNEST KENDALL [*Probationer* 1893, *Student* 1896, *Qualified* 1899] (Leicester).

THOMAS GEOFFRY LUCAS [*Probationer* 1890, *Student* 1891, *Qualified* 1899].

HENRY ALFRED NEUBRONNER [*Qualified* 1899] (Penang, Straits Settlements).

WALTER GRAY ROSS [*Probationer* 1893, *Student* 1895, *Qualified* 1899].

WILLIAM MOSS SETTLE [*Probationer* 1894, *Student* 1896, *Qualified* 1899] (Barrow-in-Furness).

THOMAS SHARPE [*Probationer* 1891, *Student* 1894, *Qualified* 1899] (Manchester).

VINCENT STEADMAN [*Probationer* 1892, *Student* 1894, *Qualified* 1898] (Bristol).

HENRY FRANCIS TRAYLEN [*Probationer* 1892, *Student* 1894, *Qualified* 1899] (Leicester).

THOMAS HUBERT HARDINGE VOWLES [*Probationer* 1892, *Student* 1894, *Qualified* 1899] (Oldham).

PERCY JOHN WARMAN [*Probationer* 1894, *Student* 1896, *Qualified* 1899].

As HON. ASSOCIATE.

THE REV. JOHN WILLIAM ROBBINS, M.A., Oriel College (Oxford).

The President announced that M. Charles Lucas' Paper on the Buildings of the Paris Exhibition, which was to have been read on the 18th December, was unavoidably postponed, and that that evening would be devoted to a Paper by Mr. Thomas Blashill [*F.*] on "The Architect in Relation to Fire Prevention."

The proceedings then closed and the Meeting separated at 8.35 P.M.

THE ARCHITECT IN RELATION TO FIRE PREVENTION.

By Thomas Blashill [*F.*]

LATE SUPERINTENDING ARCHITECT TO THE LONDON COUNTY COUNCIL.

Read before the Royal Institute of British Architects, Monday, 18th December, 1899.

THE question of fire-resisting construction in this country has been treated before the Institute on several occasions. It has been handled with skill and knowledge by the more experienced and thoughtful among our own members, and we have been cordially assisted by visitors specially acquainted with the subject. It comes before us now after the lapse of several years, during which questions formerly in doubt have been settled and new ones have arisen; during which new materials, processes, and contrivances have been proposed; during which, also, the importance of the subject has become more evident through the increase of risk.

Buildings are now higher; those with lifts are several stories higher; warehouses are more closely packed with goods; windows and skylights are larger; arrangements for heating and lighting are producing greater warmth and dryness in all combustible materials, and more people work or sleep in the same area.

Are we of this generation keeping pace in this matter with the progress of events? Have we during the intervening years been doing all that might have been done to falsify the prophecies of evil that were addressed to the generation now passing away? These are wholesome necessary questions to put in this room where the voices of Hayter Lewis, George Godwin, and Charles Fowler among our own members, and Captain Shaw among our visitors, have registered their experiences and their warnings. Braidwood, the predecessor of Captain Shaw as the chief officer of the Metropolitan Fire Brigade, seriously apprehended conflagrations that would cast into the shade the worst of those he had known; he died in one of the largest of these some forty years ago.

I suppose we need not doubt that if London in 1666 had possessed anything like its existing organisation, the Great Fire would probably have been stopped in the vicinity of Pudding Lane. I unhesitatingly suggest that it was the possession of this Brigade rather than public regulations or structural skill that kept the recent fire in the Cripplegate area from rivalling that of 1666. Statistics that run into two figures are as odious to me as to you, but single instances are precious.

The Cripplegate area consisted chiefly of old houses, which through the extension of the City's trade had been turned into factories and warehouses stored with inflammable goods. The law did not require, nor did the fire-offices demand nor human wit suggest, any precautions proper to this change of occupation. Indeed, the premises had been so treated as to make them materially less fire-resisting as warehouses than they had been as dwellings.

There was not in the whole area a single fire-resisting floor or roof or flat, not one staircase was enclosed with walls; the one staircase that was meant to be fire-resisting was of stone, and must now be eking out the pavement that is composed of good intentions. The party walls and ceilings were covered with matchboard lining, the party-walls everywhere had been surreptitiously pierced with doorway openings, so that the fire could pass readily from house to house. But this offence might almost be called venial when the streets and back areas were so narrow, and the skylights and lighting areas were so contrived, that fire passed unchecked as light passed through the openings in the outer walls. In all these circumstances I disdain to talk about the danger of the unprotected lifts. The whole area was pretty much as a household fire is laid ready for lighting. Several of these houses had been reconstructed in recent years after having burned out; some had risen again after a second fire. Some had been rebuilt voluntarily and handsomely, as one might see by the heaps of new brickwork, unprotected ironwork, and handsome unresisting stonework, that helped to choke the thoroughfares. All this or nearly all had been done under the eyes of the fire offices, and according to law. We may thus see how inefficient the law is in relation to the safety of property and human life.

I suggest, therefore, that we do not rely too much on Building Acts. Such legislation is made with a very limited foresight of future possibilities, and carried through Parliament against all kinds of opposition. At the best they only serve to bring up unskilled and unwilling builders to a very moderate standard. They must not be used to bring everybody down to a standard lower than prudence would dictate. Our building regulations are much less exacting than those in other large cities. I have been shown at the town halls and on the buildings in such cities the ceremonies that have to be gone through and the control exercised there, and I should not like to suggest such procedure here. It may be that our own people are less patient of control, and, if so, the responsibility of the architect is all the greater.

In this matter he will get no help from public opinion nor from private persons. One never meets with anyone who will seriously contemplate the chance of fire in any private house or public building in which he or his may be present. I asked one of the most eminent lawyers of our time who happened to be interested in an entertainment, "If your Lordship and your friends were here, and a fire broke out at that spot, how would you all get away?" He replied, "Well, in the first place no fire will break out. If it should, we would form a semicircle and watch it; one could seldom have such an opportunity of seeing a fine sight, with the engines galloping up and playing on the flames." That expressed the view which the public will always take. No fire did happen, and it was a thousand to one against it, so the bet which he practically made was fairly safe. Life would be too dismal if we were always contemplating possibilities against which the odds are a thousand to one. But when a catastrophe has occurred the public feels it must make atonement for its neglect, and looks out for a scapegoat—the scapegoat is the architect.

It is the architect who may reasonably be supposed to know most about the danger of fire and the means of fire-prevention. It is to him and not to his client that the public will look in cases of accident through neglect of precautions. It is to him indeed that the client himself will look if there is loss by fire, although he may have shut his eyes to risks and begrudged the cost of the structure as it stood. The architect must face the whole responsibility. The profession, moreover, has the duty, which this Institute acknowledges, of endeavouring to raise the standard of building, of discouraging bad customs, and of helping to amend the law in a matter over which its members must have exceptional means of control.

Let us bear in mind that in spite of anything we may be doing serious fires seem to be occurring with their ordinary frequency. During the last month no fewer than four provincial theatres were burned—luckily after the audiences had gone. A fortnight since one of our London churches was set on fire in the usual way—by an overheated flue. A week ago five children lost their lives in a room behind a ground-floor shop. Not very long ago a larger number of persons perished in a ground-floor room, and this shows the suddenness of such visitations. We have all seen in the "Biograph" an American fire-extinguisher tearing towards a fire. This machine is said to be a good deal smarter than ours, but eleven days ago five hundred girls jumped out of the windows of a factory in Pennsylvania rather than wait. These and such-like incidents show superabundantly the necessity of providing means for instantaneous escape, and they serve to link the question of panic with the question of fire.

The ways in which the architect may assist in the prevention of fire are such as these:—

1. By studying the causes and the results of fire in buildings, and the phenomenon of panic.

2. By using such materials and construction as will render a building fire-resisting and will ensure adequate means of escape.

3. By endeavouring to convince his clients and the public of the urgency of the precautionary measures that he knows to be necessary.

4. May I add by endeavouring to work cordially with the municipal authorities in matters about which they must know something, and for which they have a responsibility of their own?

When, at the Conference of Architects held here in 1878, the question of fire-resisting materials was dealt with by Mr. Arthur Cates, now a past Vice-President, in a Paper full of practical usefulness, chief attention was given to concrete. Since then we have become more familiar with its properties, and know that, for entire reliability, we must look to such materials as have already been subjected to extreme heat. The best of those easily available is coke-breeze mixed with cement. This material is also light, a matter of great importance, and it is reasonably cheap. For our fire-resisting floors we are indebted to the builders in Paris, who, owing to a strike of carpenters in 1840, got rolled-iron joists and filled in between them with coarse plaster of Paris, in various combinations. We have followed very leisurely in their wake.

A floor of iron or steel joists and coke-breeze concrete withstands fire and the subsequent application of water. The boards should be nailed down close upon this, as upon every floor, and the ceiling applied directly under it, with no open space above or below. In this way all the floors of the numerous blocks of artisans' dwellings put up by the London County Council have been done, and they have cost less than good wooden floors pugged to resist fire. There are half-a-dozen well-known systems of fire-resisting floor suitable for larger buildings. If these cannot be used the ordinary wooden floor should invariably be pugged. From work that I have seen, I am inclined to use joists of double thickness, with spaces of double width and fire-resisting boarding, pugging, and ceiling. In all floors, partitions, and linings of walls, great care should be taken to prevent the escape of gas into any hollow spaces; indeed, continuous hollows, along which the inflammable air from burning matter may travel, are a principal source of danger. The lath-and-plaster partition should be abandoned, and thin brick, coke-breeze, or other fire-resisting materials substituted. No space should be left for air to pass by cornice, floor, and skirting, from one story to another. There is now some choice of thin fire-resisting slabs for lining walls, so that boarding is unnecessary; but there should be no upward current of air behind them. Captain Shaw told us of cases where the lower stories had been burned, and inflammable vapour passed upwards behind the wall linings, so that the upper stories were burned also, while intermediate stories escaped.

Plastering as a fire-resisting covering for walls, partitions, iron construction, and timber both in old and new buildings, is now assuming great importance. Asbestos and the more recently introduced asbestic are exceedingly useful for all these purposes, and in different forms are amongst the materials available for thin partitions, skirtings, door and window architraves, and indeed for almost any purpose for which wood is now used in joinery. At the present time it may be said that there is no absolute need for wooden joinery or carpentry, and that the cost of fire-resisting substitutes is becoming reasonably cheap. I believe the party-wall, when well built and continued through the roof as the London Building Act requires, is quite satisfactory. In external walls all blocks and lintels should be abandoned for fire-resisting materials, which can readily be cast on the works. The serious point about these walls is the increasing size of the openings, and this is unfortunately encouraged by the Act of 1894. In narrow streets, particularly in warehouses, such openings with wooden window frames set near the outer face of the wall, invite disaster. With such openings fire-resisting shutters are more than ever necessary. It may be difficult to apply these to old windows, but it will probably be found that asbestos applied to light iron framework, as in some fire-resisting curtains in theatres, is all that is necessary to arrest fire until a fire-engine can be brought to bear. Slag wool, however useful it may be, is not an efficient substitute for asbestos. There is a class of people who, if they cannot do just what they want, will sit still and do nothing. To encourage such I may mention an interesting thing. In a very extensive building, where the upper floor of many rooms was burnt out, all the windows and all the glazed internal doors were fitted with stout green holland roller blinds. All the burnt roofs had fallen on to the floor, and where the glazing was unprotected it was broken by the heat. But where the holland blinds happened to be drawn down the glazing generally escaped. This seems to suggest that even a stout roller blind of fire-resisting material might be enough to keep back for a time the radiated heat from a fire across a narrow street. All shutters or blinds must extend well beyond the openings.

As to window-glass, experiments at the British Fire Prevention Committee's premises indicate that such glazing as that called "Luxfer," and that which embeds a wire mesh, offer very great resistance to extreme heat. I think the work of that Committee may be expected to throw much light on the real merits of materials and processes put forward as being fire-resisting, while the experiments made by patentees are quite unreliable. In all experiments the use of petroleum, which gives light rather than heat, is deceptive. Much more investigation is required into the merits of solutions intended to render wood and canvas non-combustible, and into the permanency of their effect. The bearing of this on stage scenery, every portion of which should be rendered non-combustible, is evident. As to timber, though the application of a fire-protecting solution may be of some utility, nothing short of forcing the solution into the substance seems likely to be satisfactory. On the other hand, we know that when wooden beams and joists are massive, they resist fire much better than unprotected iron.

Gas fittings, if we are to continue to use gas, need the most careful supervision when new, and inspection when old. Compo pipe is often used, the end of a pipe is stopped with a cork instead of being capped, joints are imperfectly made, and escapes of gas are, of course, sought for with a light. Electric fittings may easily cause fire, and should only be entrusted to people of known skill and honesty. Such matters would be too obvious for mention, were it not that they are so often overlooked.

The fittings of old houses need to be inspected. I have at least four times had the narrowest escape from gas explosions, the effects of which most of us have often seen.

The common termination of an account of a fire, "cause unknown," requires a word of comment. When a building is burnt out it may be impossible to trace the origin of the fire; when it is only partially burnt the evidence may be found. But there is an enormous number of narrow escapes which would give us useful lessons. In one of the extensive exhibitions which during recent years have been so common in the west of London, there were during a six-months season at least ten outbreaks of fire that were dealt with without troubling the Fire Brigade. To me, the chief interest of this branch of the subject is in showing that the fires which actually occur are not isolated events of comparative rarity, but probably the unlucky instances out of a very great number which did not happen to be caught in time.

Upon the whole it seems that structurally the greatest source of danger in a building, and the part that is most difficult to deal with in case of fire, is the roof. Whether set on fire from without, or during the progress of repair, or by an overheated flue, the roof, being well dried by heated air, possibly by sun burners, breaks into a full blaze in a moment, and is often destroyed before help can arrive. The fires at the Alexandra Palace, which I saw, and the Metropolitan Tabernacle are instances. The heavy timber roofs of churches and of large halls seem to invite these accidents. Some are even covered with tarred felt under the slates. There is no need for inflammable boarding to carry the slates, for we have now some choice of thin fire-resisting slabs which are easy of application. Steel joists will often span from one party-wall to another, and render unnecessary the roof trusses and all other woodwork. Iron-roof construction has become a great industry. A concrete flat can be used or a fire-resisting ceiling may be put under a roof of wood. On some of the best London estates fire-resisting roofs are now among the conditions of the leases, and, for buildings of any importance, inflammable roofs should soon become things of the past.

While I must insist that the duty of the architect and his responsibility are not bounded within the narrow limits of the Building Acts, these are most valuable as fixing a minimum of precaution which the most careless can be made to observe. Besides this, the powers of the London County Council under the Metropolis Management Amendment Act 1878, have enabled them to frame very important regulations for places of public entertainment; and their powers under the Factory Acts are causing a much needed reform in the limited class of factories and workshops to which they apply. As I have been very intimately concerned with the working of these enactments, I may venture to give some information and suggestions on each of the matters above named.

So far as I know, the control of the London County Council and the District Surveyors over questions of materials and construction gives rise to comparatively little dispute with architects of experience. It is when control is brought to bear on questions of planning, and when demands are made for greater space and greater facilities of egress, that the chief difficulties arise. These matters cost money, and diminish the sources of revenue from the building, and very few clients are able or willing to suffer in this way without a struggle. I have had to say to an architect, "You seem to begin by planning your auditorium and stage, and then squeeze your stairs and passages into any spare corners. You should plan first your stairs and passages, and if there is enough ground left you can have your theatre; if not, you cannot."

The requirement by the London Building Act of fire-resisting construction in a story the floor of which exceeds sixty feet in height, and the requirement of reasonable means of escape for persons dwelling or employed in a new building on floors over sixty feet in height, are very important. These people cannot be rescued by an ordinary fire-escape, and they may be unable to get down the staircase. If they did they would diminish the chance of escape for those on lower floors. Some arrangement is necessary that can be found and used by women and children, aroused, perhaps, in the middle of the night, with no time to dress, and that will conduct them to a place of safety. It has been seriously urged upon me that the Council's discretion to approve means of escape includes a discretion to excuse them if there are serious structural difficulties, or if the cost of bringing the building up to a good standard would be great. Arrangements have been actually submitted that included locked exit doors, and light iron ladders nearly upright which might be used by a fireman, if he could find them, leading to a back yard with an exit only through the burning house.

The requirement of fire-resisting floors and staircases in those buildings only which are over twenty-five squares in area, tenanted by different persons, may have some justification; but I cannot think it is intended to excuse the omission of reasonable precautions in all buildings, even though those conditions do not exist. Again, the requirement in a dwelling-house or factory exceeding thirty feet in height of means of escape only if the roof has a parapet, and the allowance of a step-ladder and trap-door as a suitable means, seems to encourage the omission, in certain cases, of necessary means of escape. There should surely be in every case, particularly in lofty buildings, reasonable means of escape—or else reasonable security, if they remain—for persons, however few, and irrespective of the construction of the roofs. A room with fire-resisting floors and partitions and good doors, unless stored with inflammable materials, ought to be a safe place for some considerable time until means of escape can be afforded by the window, or until the alarm passes away. But roof-doors and other permanent means of escape from upper stories give rise to difficulties of their own.

It would be simple enough to run balconies or galleries along the fronts of houses on each floor or on alternate floors, or to make a short balcony across the end of a party-wall to give access from each building to the other. No doubt such means of escape, unless very carefully contrived, are liable to be used for undesirable purposes.

A common kind of accident is the burning of one of those three-story houses in roads where the ground story has been converted into a shop, or where this arrangement is reproduced in a new building. The upper floors of the older class of premises are commonly let out in tenements, or they may be partially used as work-rooms if the business is prosperous. A fire originating in the shop stops all egress from the upper floors, and its progress is often so rapid, that even in the daytime none of the inmates can escape in that way. Ordinary prudence would dictate the provision of efficient fire-resisting floors and partitions between the shop and the dwelling-house, with a separate entrance, and this idea was adopted in the Building Act of 1894. But these protective contrivances are limited to premises exceeding 1,000 superficial feet in area, which must exclude the great bulk of the premises that are subject to this particular danger. While I was hesitating between three or four instances that caused much sensation when they occurred, there came the burning of the five children in St. George's-in-the-East, to which I have already referred. And there are people willing to go as far as the Court of Appeal in order to escape this trifling necessary obligation! I suggest that we should never omit it, whatever the superficial area may be; and further, that we ought to try to get the limit of area abolished, and the law made to apply to old premises as well as to new.

Places of public entertainment have so many features in common, that it has been possible to compile regulations which are so well known that I need not deal with them in detail. When I began to be responsible in these matters the Metropolitan Board of Works had been for several years endeavouring by negotiations, requisitions, and arbitrations to effect much-needed reforms. But a good deal was still left to desire. It was still thought possible to get approval of the site of a theatre on a space enclosed by the backs of other property if there were one or two narrow frontages to streets. To one who brought me such a plan I said, "Surely Nature intended this for a coal-yard." But it was a timber-yard then—and I think it is one still. I doubt whether even the best of the architects engaged on this class of buildings had much idea of the way in which they would be occupied and the amount of care that would be taken of them.

It is notorious that the great danger of fire arises on and about the stage. I have found the whole space under the stage stacked up to the under side of the wooden floor with scenery out of use, and every part of the stage with large scene docks connected therewith occupied in the same way, so that there was barely room for those engaged in the performance. I have found painting-rooms, dressing-rooms, and workshops contrived at the back of the scenery without any attempt to separate them. When we began to insist more strenuously on separate exits from every part with automatic bolts, these arrangements were rendered useless by storing all kinds of lumber in the passages, and by locking the exit doors during the performance, the key being kept at the box office till required. Frequently they have been barred and padlocked. Without saying that everything at every place of public entertainment is as one might wish, the alteration is striking, and the large numbers of new theatres that have been springing up in all our London suburbs have been designed by several architects genuinely desirous of doing everything that their clients can afford to do for the safety of the audiences. They have often been in advance of our regulations, one adopting, without compulsion, a fire-resisting roof, another a fire-resisting curtain, and others carrying out fire-resisting tiers and partitions. Where architects will do this, regulations follow, and do not lead them. I should like to say also that many proprietors have spent large sums in acquiring property and increasing their exits and providing separate storage for scenery, and in improving the accommodation for the audience, and the infrequency of accidents bears witness to the care that is taken in the management.

Let me note, however, how much we are behind Continental cities in these matters. In such cities the rule is to put a theatre in a wide space, or in a garden, with ample room all round. Beyond the open space is a separate warehouse where all the scenery is stored, and such precautions combined with ample exits are expected to render any serious accident from fire improbable.

I do not know how our provincial theatres are managed, but in one of those which were burned down within the last few weeks, sixty tons of scenery are said to have been stored on and about the stage. In addition to this, there was a huge and very elaborate stock of properties, and the dresses for the Christmas pantomime were there. When we remember how fatal at all times the fumes of burnt scenery have been to the audience, the gravity of this, if it be true, should cause serious thought.

In the matter of theatre construction a pamphlet by our Fellow, Mr. Alfred Darbyshire, of Manchester, on Theatre Exits will show how an architect of experience views the question.

The clauses in the Factory Acts passed during the last few years were drafted, so far as I know, without consultation with any of the public bodies who would have to administer them. The powers so conferred were not coveted by them, and the work is very considerable. Owing to the infinite variety of plan and the great difference in the goods and processes, it has been impossible to frame regulations of such uniformity as those made for theatres, but by the provision of alternative means of escape, clear of lifts and other sources of danger, with such fire-resisting construction as could reasonably be demanded, danger to life has been rendered highly improbable. I have had to deal with architects who could see no danger, and who, perhaps prompted by their clients, would neither accept nor make any suggestion; but this has been exceptional—in general the necessary improvements have been effected willingly. The house in which the Cripplegate fire originated was one of the first dealt with by the Council. If there had been no exit door to the roof, some sixty or eighty lives must have been lost in that building. Great improvement in the new buildings on the Cripplegate area, effected by the harmonious co-operation of ground landlords and tenants, and their architects with the District Surveyor and the County Council so far as it has been concerned, will show what may be done under such conditions.

The flats of nearly all the new buildings are now of concrete and iron. Most of the buildings have at least two fire-resisting floors, generally that over the ground floor and that over the second or third floor. In many cases all the floors are of this class, the ironwork being covered up. Nearly all the staircases are fire-resisting, of the type approved by the County Council, to which the name of that body seems likely to cling.

With regard to factories, it may be useful for the architect to consider that though the processes used, when the means of escape are considered, may be particularly safe, the premises may in the near future be used for a comparatively dangerous process. It should therefore be made more secure than may seem at the moment to be necessary.

Once, in a Parliamentary Committee, I was asked by way of ridicule why it was not proposed to apply theatre legislation to places of public worship. My answer dealt with the comparative infrequency of accidents and scares in such places; but it was an imperfect answer. Though few in number, all the greatest calamities from fire have happened in churches, from that at the Abbey Church of Vézelay in the 12th century, when 1127 lives were lost, to that in the Cathedral of Lima, in South America, some seventy years ago, when 2,000 women lost their lives, hardly any escaping. In April of last year I was addressing a meeting on this subject at the very moment when the Metropolitan Tabernacle took fire from an overheated flue, and the roof fell in within half an hour. The congregation had sometimes numbered 6,000 people; the exits were few, and the time occupied in getting out was considerable; and we may imagine what would have been the result if, instead of being empty, the place had been occupied by a congregation, great or small. In the rebuilding both exits and structural arrangements are being very much improved. A fortnight ago the roof of the old church of St. Mary, Islington, took fire in exactly the same way, and I understand that this had happened before. There was a similarly lucky escape. I believe these places conform to all legal requirements, as do scores of others in London and the provinces, where similar accidents might at any time take place. The Building Act of 1894 supplemented the former requirements as to fire-resisting construction by fixing the width of staircases and corridors, and the outward opening of doors; but it is still possible to avoid providing the necessary number of exits, and to so place them that a fire such as not infrequently happens in an organ gallery would obstruct the means of egress and cause panic or a worse result. Such an accident happened a few months ago to a place of worship in Hull, when the morning congregation found the gallery and organ blazing on their arrival. I suggest that new legislation is desirable, and that a prudent architect should in all such cases go a good deal beyond the legal requirements.

One of the few instances of the careful provision of means of exit from a church will be instructive. It was a London church designed by the late J. D. Sedding, and on the opening I looked in at the end of the service to see how the wide exit doors at the west end would act. The whole church was packed with people, the passages being filled. At that moment the retrocessional hymn struck up and went on, but there was no room for the choir to pass down the church. The exit doors would have let us all out in a few minutes, but they were locked, and I was told that the key was in the pocket of the vicar, then standing inaccessible on the altar steps.

There is another matter allied to places of worship. All will now have a parish or congregational room. Let the architect beware of building such a room otherwise than according to the County Council's requirements. It will speedily be required for entertainments and the more dangerous bazaars. In neither case can any reliance be placed on the care of the inexperienced and irresponsible managers, and if a catastrophe occurs it is as well that the architect should be able to show that the blame is not with him.

Someone, a philosopher in his way, once expressed his objection to doing so much for posterity that had done nothing for him. In a sense, we have to face the same consideration, and it is fitting that we should direct our attention a little more to our own interests in the present day. It is very important to the posterity which we are pampering in a good many ways that all our buildings should be handed over to them in the best condition according to our lights. But it is a hundred times more important to this generation that the old imperfect structures which so far exceed them in number, and in which the vast majority of us must live and work, should be made as secure as the buildings newly put up. While the chief justification of such a measure would be the security of human life, the loss of valuable property and irrecoverable works of art is a justification in itself. There is one class of property which, if the owners have good practical advisers, ought not to wait for legislation. I used to think that the old country mansions of our aristocracy and gentry were being destroyed at the rate of about one per month—one was burnt out three weeks ago. These accidents generally result from overheated flues, or from wooden beams near to the fire. Under skilled advice every place of contact of floor or roof or cupboard or wainscotting with the brickwork round a flue could be made secure, and the junctions of floors with walls could be made tight and many other things done to reduce the danger and give time for dealing with an outbreak of fire. A great deal more could easily be done. Sir E. M. Shaw has told us how much he would trust to good plaster well applied. It is possible to cover all woodwork exposed to danger with fireproof plaster, as beams in the dome of St. Paul's Cathedral were covered some years ago. The junctions of floors with walls could be made air-tight, floors themselves for two or three feet round the rooms could be pugged, and an old building could, without excessive cost, be made secure from the kinds of accident which usually cause fires.

There is a question about which I am now more free to speak than I was a few months ago—the question how far an architect should exert himself to minimise or to procure the omission of requirements laid down by the public authority for the safety of persons or property. He may think that when he has secured the certificate or consent of the authority to the reduced precaution, he has got rid of all responsibility. I cannot think this will hold good, but if it should, it will be a reason for greater hesitation on the part of the public authority in relaxing its requirements. Sometimes, by architects, but very far more frequently by persons acting for themselves, I have been strongly urged to assent to proposals which I felt to be risky. I have been driven to ask on whom it was proposed to put the responsibility, if things should go wrong, and the answers would generally be evasive. I think I liked best the reply of the man who said plainly that he meant me to be responsible. We understood each other.

In bringing this question of Fire Prevention once more before the Institute I am conscious that much which I have said has been said unanswerably in this room by Professor Hayter Lewis in 1865, by Mr. Alexander Payne in 1876, by Mr. Arthur Cates in 1878, and by those who so ably joined in the discussions. Information of very great value was also given to us by Mr. R. W. Gibson, an American architect, in a Paper read before the Institute in December last year on "Fireproof Construction of Buildings in America." I commend these papers in our TRANSACTIONS to your serious attention. Something will no doubt have been added to our stock of wisdom before we leave this room. But I cannot look without some apprehension to the speech of George Godwin on fire prevention, in which he remarked how curious it was that "when such a thing had been attempted and had been found to succeed, and was well spoken of, yet it was allowed to die out!" It rests chiefly with our profession, and particularly with the members of the Institute, to see that, with all our modern experience and our modern advantages, we do not lag behind other countries in this matter, nor behind our duty and responsibility to ourselves and our own people in the protection of property, and more particularly of life, from fire.

DISCUSSION OF MR. BLASHILL'S PAPER.

The President, Mr. William Emerson, in the Chair.

Mr. ARTHUR CATES [*F.*] sent the following contribution, which was read to the Meeting:—

I had hoped to have been able to be present this evening and derive pleasure and instruction from hearing Mr. Blashill's Paper on "The Architect in Relation to Fire Prevention," which from the abstract sent me on Saturday appears aimed to bring before architects the serious responsibility attaching to them in this matter.

I had also intended to endeavour to emphasise in the most forcible manner "the lesson of West Ham," where an admirably equipped Polytechnic Institute — recently erected and furnished at great cost—has been wrecked and much loss incurred, apparently because the very able and clever architects, possibly for economy, or merely following the customary routine, had been content to construct the roofs in the ordinary manner, without taking any "fire-resisting" precautions.

This lesson, one only, but the latest of a long series, should be taken to heart by all architects, and by all those who may have the control of similar buildings, private houses, and mansions, which have been built or are to be built, so that due precautions may be taken by modifying the existing dangerous construction, and securing that no similar error should be again committed.

For something like thirty years past I have been endeavouring to advance fire-resisting construction by imposing, as far as possible, conditions requiring it, in any important buildings which I might be able to influence or control. As experience has progressed and suitable materials become better known and more available, these conditions ultimately assumed the form that "All floors, partitions, and roofs should be fire-resisting, and all iron and steel construction, columns, stancheons, and girders, should be effectually protected by fire-resisting material." As regards the construction of roofs and protection of ironwork, I have sometimes found considerable difficulty in obtaining even partial compliance, the conditions being declared by architects of position, to be beyond the requirements of the Building Act, and vexatious and needless; but experience has fully proved their importance and value.

The provision of the Building Act as to roofs, that they should be covered with slate, tiles, metal, or other incombustible material, has probably led to the idea that this was sufficient protection; but this legislation is only the minimum, and solely intended to prevent the use of such coverings as tarred boarding or the like. The Act of 1894, in section 62, providing that any storey constructed in the roof at a height of above sixty feet from the street level, should be of fire-resisting materials throughout, has been a slight advance in the right direction; but if the condition stated, of a storey in the roof, does not exist, it would seem that the enactment has no effect, and the roofs may be constructed in the ordinary combustible manner. How much better it would have been to have simply declared that all roofs, the lowest part of which are above sixty feet from the street level, should be throughout of fire-resisting construction; or, better still, if the limit had been fixed at fifty feet. However, whether there is legislation or not, it is clearly incumbent on the architects of all buildings of any importance, public or private, to so construct the roofs as to prevent the occurrence of catastrophes, which so often arise from the ordinary system of roof construction.

There is in the Library a recently published book dealing with the subject of fire prevention in a very exhaustive manner—"The Fire-proofing of Steel Buildings," by J. H. Freitag, New York and London, 1899. In the chapter on "Fires in Fireproof Buildings (so-called)," the author mentions the dictum of a leading fire official in New York: "A building of brick and yellow pine in case of fire is easier to manage, and the contents have more chance of being saved, than in a modern *fireproof* building." This opinion will certainly, from a fireman's point of view, be confirmed by the experience of great London fires. The earliest instance I can recall occurred more than fifty years ago. I was engaged on the drawings of an addition to an old warehouse; the new work was carried out in the most scientific method of that day, as absolutely fireproof—with cast-iron columns and girders with brick arches—and we were very proud of it. Soon after the building had been completed and occupied and filled with goods, a great fire broke out in it, with the result that our fine new scientific structure practically disappeared in a heap of rubbish, while the old warehouse, with its great timber posts and beams and thick well-tongued floors, escaped with comparatively little damage. Instances of this kind may be repeated over and over again, but they cannot affect public buildings or private mansions, which are not stored with masses of combustible matter, which, when burning, generate great heat, and maintain it for long periods*; nor can they absolve the architect in these days from the responsibility of making the roof of his buildings, as far as possible, fire-resisting, protecting the iron construction from fire action, and taking all precautions to preclude the possibility of the rapid spread of fire.

Two instances may be mentioned which appear to justify these remarks. So far as could be seen from the outside, the roof of a quasi-public building recently erected, in which a valuable library will be housed, has been constructed in the ordinary manner, of fir rafters and boarding, without any provision for protection from fire, while the greatest care has been taken to render the floors fire-resisting; and in one of the prominent West End streets a very handsome stone-fronted shop building just finished is carried by iron or steel stancheons on the ground floor, all exposed and unprotected.

The immense importance of the subject, and the certainty that, when a roof of ordinary construction is well alight, it is difficult, if not impossible, to extinguish the fire, and that even if success therein is attained, it can only be by the lavish application of water, hardly less destructive to the contents of the building than fire itself, lead me to venture to suggest that those who have the charge of the great buildings containing our National treasures of Nature and of Art should see that effective measures are promptly taken to place any such roofs as may require it—should there be any—in a reasonable condition of fire-resistance. No question of economy should be allowed to intervene, and delay the prompt and effective execution of such works as may be necessary, if at all, to preclude the possibility of a catastrophe which might involve the destruction of national treasures of inestimable value.

Without venturing for one moment to presume or even to suggest that they are intended to be otherwise, it would be a great public satisfaction if an assurance could be given that the roofs of the new buildings of the Victoria and Albert Museum, South Kensington, the Royal College of Science, the new Public Offices, &c., will be so constructed as to be perfectly fire-resisting.

I am well aware that great confidence is placed in having plenty of fire hydrants in and about a building. Not for one moment would I depreciate their value or importance, especially if they are ever ready for use. Too often the hose is neatly coiled as the centre feature of a fire arrangement, surrounded by the branch and other implements, and enclosed in a handsome glass case, like valuable objects in a museum. Thus, if required for use, the coupling up of hose to hydrant and branch to hose is necessitated, operations which to inexperienced and untrained hands are not very easy, and in any case may lead to serious delay and confusion, which would be avoided by the hose and branch being kept coupled up to the hydrant ready for immediate use. But "prevention is better than cure;" and however complete the fire hydrant service may be, it does not in one atom diminish the necessity for the construction of the roof being fire-resisting, so as to prevent that remarkable and sudden spread of fire which a solitary hydrant here and there could not effectively combat or control.

The severe test experiments conducted by the British Fire Prevention Committee are affording means for judging of the comparative fire-resistance of various materials, and collecting information of great value, which should much assist architects in the selection of such materials as may be most likely to minimise the spread of fire; and it is much to be regretted that for some mysterious and unexplained cause the Executive Committee should have decided to withdraw from sending an exhibit to Paris next year.

There are many other important matters which might be dealt with, such as the avoidance of continuous hollow spaces under floor surfaces and in partitions, at the back of skirtings, dados, and wall linings, the external protection of window openings in light areas and narrow streets, the prohibition of composition tubing for gas services, the regulation of swing burners to avoid contact with combustible material, &c., while not the least source of danger is the present mania of the shopkeeper to have his shop front all plate glass undivided by piers, with grand stone façades above the ground floor resting on iron construction, so arranged that no apparent support is visible—this and the extension of shops over the forecourts of suburban houses, including many in one establishment, would seem to need some legislative action to control.

The warmest thanks of the Institute, of the profession, and of the public are certainly due to Mr. Blashill for having so kindly undertaken to fill up a gap in our Proceedings, by placing before us the result of his long and varied experience in the official position he has held with so much credit to himself, and aiding in the consideration and discussion of a subject of such vital importance to the community.

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* Light goods, however, will produce intense heat and burn with great rapidity, as evidenced in the case of the Portland Bazaar many years ago, where the most remarkable destruction and distortion of the iron girders was caused in the few minutes the fire lasted.—A. C.

Mr. D. S. WATERLOW, Chairman of the Building Act Committee of the London County Council, who rose on the invitation of the President, said he was not an architect, and in speaking on the question of fire protection, he spoke simply as a layman to professional men. He would only speak so far as his experience guided him with respect to his official work in connection with the building regulations enforced by the County Council. The Committee over which he presided, he was afraid, might be considered the *bête noire* of architects; it had a difficult work to perform, and it had an unpleasant task at times to persuade architects and building owners to do what the Committee considered the right thing. With regard to the Building Act, as they all knew, there were certain fixed regulations that were as the laws of the Medes and Persians which change not, and there were other permissive regulations as to which the permission of the County Council had to be obtained before they could be utilised. It was with the permissive regulations that he would deal that evening. These permissive regulations related to factories, under the Factory Acts; and under the Building Act to high buildings where the floors were more than sixty feet above the ground; and under the Metropolis Management Act the regulations were with regard to theatres. Those were the three things dealt with by the Committee; but what mainly concerned them was the efficiency of the means of saving life. On that question they were in a different position from architects and building owners. They had not to consider the question of cost. That had to go by the board where the people's safety was concerned. With regard to theatres, one great feature they had to deal with was the avoidance of panics. It was not so much the prevention of fire as to get the people out of the building before they were suffocated by the smoke. Smoke was the one thing they had to deal with; not the rapid spread of the fire, or whether it would consume any particular construction quickly, or whether that construction would resist for half an hour or more. Smoke was the dangerous element where human life was concerned, and as a consequence they had to see that where large bodies of people were collected there were rapid and effectual means of getting out of the building which the people would not easily mistake. The question was the avoidance of panic so as to enable the people, even in case of a very small fire, to get away rapidly when once they were frightened. With regard to factories, the work of the County Council had been much criticised, partly because there had not been, comparatively speaking, a very large number of serious accidents in factories. But there was great risk involved in factories. Having been engaged as the manager of a factory containing 700 or 800 people for fifteen years, he had had considerable experience in factory work. The work done by the Committee in relation to factories was on similar lines to the work connected with theatres, only that in many of the factories, particularly the older buildings, absolutely no attempt had ever been made to provide for the safety of the people employed. There were at the present time hundreds of factories in London with nothing but a plain wooden floor, and a plain open step-ladder staircase. Those factories often contained on the upper floors some forty or fifty women, with nothing but a single staircase with an open step-ladder construction for the whole of them to come down by. If a small factory fire, arising from a heap of shavings or straw, occurred upon the ground floor or basement, it created a vast volume of smoke, which filled the staircase and prevented anyone descending it. Consequently a panic seized the women on the upper floors, and they leapt out of the windows, and so a fearful disaster occurred. In order to cope with such a state of things, the Committee were endeavouring to put in force such regulations as these: that there should be one thoroughly good fireproof staircase, and, if the factory was a comparatively small one, that beyond that there should be some alternative means of escape, by which people could get away without much risk—either it should be over the roof, or down some other staircase in a remote part of the building, or by some other efficient means. He had himself seen some thirty or forty women get scared in a small fire that was scarcely worth speaking of, and it was impossible to control them for several minutes. Knowing what he did of factories in London, he was surprised that more serious disasters had not occurred in the past. So far as the regulations under the Factory Act were concerned, the County Council had no compulsory power unless more than forty people were employed on the ground floor. But there were a large number of factories in which there were less than forty people; and it was not an infrequent occurrence for the owners to reduce the number of their workpeople so as to avoid the regulations, with the result that a large number of factories which they knew to be most dangerous passed out of their supervision. Here was a recent experience. There was a small factory in which only eight people were employed. It had a step-ladder going up from floor to floor. A small fire occurred, the step-ladder caught, and the smoke rushed up the staircase. In five minutes the place was in flames, and of those eight people one failed to escape, probably overcome by the smoke, and his burnt remains were eventually discovered on the premises. That showed the necessity of preventing the smoke from filling the staircase, and that was one of the things the Committee were striving after. Recently they had at the County Council a case where the factory owner had done almost everything the Committee demanded of him.

But there was one trifling thing more they wanted him to do, viz. to make a fire-resisting partition from the foot of the staircase to the exit door into the street, and a fire-resisting floor at the foot of the staircase leading into the street. He came to the Committee and said he did not think this was a necessary thing to do—it was a small matter, and he hoped the Committee would overlook it. He (the speaker), upon the advice of his officers, had to point out to him that this was an essential feature; that even if a little fire took place underneath that bit of wooden flooring the smoke would come through the floor and fill the staircase and render it useless. Eventually he was satisfied with their arguments, and agreed to do what was required. That was a case where a man was proposing to spoil his ship for the proverbial ha'porth of tar. With regard to high buildings, and means of escape from them, the Committee was endeavouring to make the latter as effective as possible. As his home was some distance from town he had frequently to pass the night in one of their great London hotels, and the question was always present to him, when his room was on the sixth or seventh floor, how was he to escape if the lower floors caught fire? He knew his way from his room to the lift, and that was all. With such a state of things existing, as it did in numerous hotels in London, what a terrible position women and children and men would be placed in, should a fire occur in the lower floors of such buildings! The County Council could only deal with new buildings so far as this matter was concerned; but his attention had been seriously called to old buildings, and he would ask architects to bear in mind this question, when called upon to make alterations in some of the large buildings or flats that existed all over London, and over which the County Council had no jurisdiction whatever, because they were old buildings. This question of escape from fire should be carefully borne in mind, not only in buildings where the roofs were sixty feet above the ground, but also in buildings where the roofs were fifty feet and even forty feet above the ground, because there were many public and semi-public buildings in London which were in great danger from fire. In the fire at Hyde Park Court, not long ago, there was the narrowest escape from disaster, as there were hundreds of people in the building at the time. Finally, they must bear in mind that where the public safety was concerned the question of cost must be put aside—the safety of the people was the first consideration.

Sir JOHN TAYLOR, K.C.B. [*F.*], said he had great sympathy with the object Mr. Blashill had in view in bringing this matter before the Institute. Mr. Blashill had alluded to the fact that sufficient progress had not been made in regard to the fireproofing of buildings. The National Gallery was the earliest example of fireproofing he (the speaker) knew of. The floors of that building were of fire-pot construction, *i.e.* of arches formed with fire-pots, which was practically fireproof construction. Brick and concrete with iron girders and joists had taken the place of that construction of late years; still, when Wilkinson introduced the use of fire-pot construction into the National Gallery, he was rather ahead of his period. Mr. Blashill's remarks with regard to construction were, from a purely fireproofing view, extremely practical and proper. But there were difficulties connected with such construction. For instance, there was the actual laying of the wooden floor immediately upon the concrete, and the ceiling of the floor coming immediately below the construction, whatever it might be. In a public building there were a great many communications to be formed in the nature of telephones, gaspipes, electric bells, pneumatic bells, &c. If the floor were laid directly on the fireproof construction and the ceiling directly under it, all those communications must be exposed. True, some of them might be exposed conveniently and without any great disfigurement to the building; but in many instances it would be extremely inconvenient if the pipes and wires were all open to view. He had found it desirable to have a thoroughly fireproof floor in construction, but it was also in many instances desirable to have a space underneath in which to carry the pipes and wires. Mr. Blashill had mentioned the question of a building with a wooden roof upon it. As regards public buildings that had been practically abandoned, and he did not suppose that wooden roofs on any buildings of an important and permanent nature would be adopted again. The latest buildings with which he had been connected, the new Admiralty Offices and the Record Office, were absolutely fireproof. The roof of the Record Office was not only constructed of iron, but the covering was of iron also. There were no slates or tiles or anything of the kind. It was composed entirely of iron plates, so that in the event of fire there was absolutely nothing to burn. The iron construction was not cased, but it had a fireproof ceiling immediately underneath. With regard to Mr. Cates's remarks as to the fate of future public buildings, he could only say that the greatest care would be taken to carry out the buildings in a perfectly fireproof manner. He was sure Mr. Brydon would do his best in the construction of the roofs of the buildings with which he was concerned, and he had no doubt Mr. Young and Mr. Aston Webb would do likewise. There was one thing which always tied their hands more or less—the question of cost. People asked, what did it matter how much it cost if the building were perfectly fireproof and of the best construction? That was perfectly true, and he agreed with them. But the difficulty was how to get the money. When he was being examined before a Committee of the House of Commons some eight or ten years ago, he put forward an estimate of something like 1*s.* to 1*s.* 2*d.* a foot cube for the completion of a public building. A very prominent member stared at him and said: "1*s.* 2*d.* a foot! Why, I know of a building for offices which has been constructed for 8*d.* a foot quite recently." The building constructed at 8*d.* a foot, referred to by the member of the Committee, was in one of the station yards in London, and was intended for the offices of the railway company. His only answer was that he did not think the public would be quite satisfied with a stock brick building in St. James's Park! That showed how difficult it was to get the necessary money to equip buildings in an effective and complete manner. As far as he was concerned, no effort would be wanting to get the new public offices and buildings constructed in the best and most fireproof way.

MR. W. E. RILEY [*A.*], Superintending Architect to the London County Council, said that Mr. Blashill's very interesting and capital Paper concerned them all very nearly, both those who designed buildings and those who were responsible for the safety of the public. With regard to theatres, the County Council regulations did not attempt to save the stage part of a theatre; the auditorium and the parts devoted to the public were, on the other hand, carefully considered in every case. He had received, a day or two ago, the latest legislation on Building Construction, viz. the New York Code which came into operation last Tuesday. In some respects it was exceedingly successful and to the point. The code had been under revision for two or three years, and had been framed by a commission of architects, civil engineers, and representatives of all the building interests, including masons, bricklayers, carpenters, and plumbers. It was administered by a superintendent of buildings, who did not appear to be controlled by a county council, though he was not aided by a staff of district surveyors. He should like to say a word or two for the district surveyors, who were a much abused but a very useful and a very capable body. They were all gentlemen of high professional attainments, and they did work which was not popular in an able manner, with much tact. In the New York Building Code, which had just come into operation, many changes were made in building regulations. The first general improvement it adopted was as to the height of public buildings. A "public building" in New York had a much broader meaning than in London. The expression embraced a restaurant and a lodging-house, no matter how many people were accommodated in it. The limit to which such buildings could be erected without employing fireproof construction was thirty-five feet in height. There was no limit at all with regard to the area. There were, as they knew, abuses in regard to what were vulgarly called "sky-scrapers," which had led the controlling authorities in the United States to be considered very far in arrear of other building legislatures, but he was amazed to find that every building, of whatever character, which was seventy-five feet high, must be constructed throughout of fireproof materials. In sites for theatres, for instance, they now adopted the general rule in London of obtaining one side street and one main street in front. If they should want to build, as Mr. Blashill humorously said, on the site of a coal yard, the New York Code insisted upon having seven-feet passages on each flank; that is, the front must give out on the main street, and seven-feet passages must be provided on each flank if 1,000 people were to be accommodated. If 1,800 were to be accommodated, the passages must be eight feet; and if over 1,800 the passages must be ten feet wide. With regard to recent designs for theatres in London, it was a matter of surprise to him why they always resorted to a staircase. In New York they adopted a much more practical and common-sense mode of reaching the street—viz. by what sailors called a "brow," *i.e.* a slope. The slope was confined to 1 in 12, so that every part of a theatre and every corridor on the ground floor must communicate with one of those passages, having not less than two exits into the passages. The slopes were of fireproof construction enclosed in brick walls, with fireproof ceilings having a rise or fall of not more than 1 in 12. The vertical step of any kind whatever was in future, he understood, prohibited. That was a very important regulation in the improvement of theatre construction. The planning necessary for such a structure would no doubt be exceedingly difficult, but, as they all knew, planning was the test of every good design. There was more imagination in the man who could make a good plan than in the man who made a good elevation; at any rate, that was his experience of the work that came before him. If he got a good plan he was bound to get something practical on the top of it. There was another recommendation in the New York Code that had a very important bearing on a matter which gave a great deal of trouble in regard to theatre and music and dancing legislation in London. In New York they never allowed any place of amusement where the public could assemble—there was no limit of number—to have any connection with either an hotel, a lodging-house, or place of that kind. That would bar all the assembly rooms and music-halls attached to public-houses. As he had already remarked, he looked upon the back part of the stage of a theatre as designed to disappear; the fireproof curtain came down at once, and forced the smoke and flame from the inflammable material through an opening in the roof over the stage. That was a very sensible arrangement, though very few of the old theatres had fireproof "flies." He knew one instance where there were at least forty operatives engaged in the flies of a London theatre, and he trembled to think of the probabilities if a fire took place on the stage of such a theatre; they would drop the fireproof curtain, and the poor operatives in the flies would be grilled. In the new code in New York they had adopted fireproof flies. The ceilings of the auditorium and all the partitions and enclosure were to be fireproof. All who were familiar with the boxes of the old theatres must be aware how inflammable such places would be if fire broke out. In the recent theatre fire at Newcastle, the only part of the building that was left was that portion which was of fireproof construction; the roof and every part of the ceiling was gone. Alterations had been made at a cost of some £15,000 or £16,000 only a few years ago, and those were the portions which were supposed to have been rendered quite safe. He had collated the latest information from various countries respecting the comparative regulations for planning of theatres on three important points, and embodied them in the following table:—

—	1. Staircases	2. Whether theatres shall be detached buildings or not	3. Floor of pit
London . .	To be 4′ 6″ wide for 400 persons, and increase of 6″ for every further 100	May be either attached or detached	Must be not more than 6″ above street, and not lower than 15′ 0″ below street
Italy . .	To be provided as required by Authority	Must be entirely isolated, with exits on each side	On a level with the street or not more than 6′ 6″ above such level
Lower Austria .	Sufficient to empty the theatre in four minutes	Must be entirely isolated, and not less than 49′ from boundary of the land on which they stand	Not higher than 6′ 6″ above level of street, and to have inclined planes (no steps)
St. Petersburg .	4′ 8″ wide for every 150 persons	Open space to be provided on every side, and windows on every side	No information
Berlin . .	As required by Authorities	No information	No information
Paris . .	No staircase to be less than 4′ 10″, and increased in width or numbers as required	May be either detached or attached, but if latter an independent wall must be built to protect party wall	No provision
Brussels . .	3′ 3″ for every 100 persons	Entirely isolated by open space or by brick walls not less than 1′ 10½″ thick	No provision

He had looked up particulars from various sources about the great fire at the Hotel Windsor, New York, and he thought they were interesting enough to mention on the present occasion. Accommodation was provided in the building for about 500 persons in addition to servants; the hotel was quite full when the fire broke out. There were more than 500 rooms in the hotel, and each was fitted with a safety rope, but they were not successfully employed, as women lost their grip in using them. The enclosing walls were of ordinary brick construction, the rooms being divided by stud partitions, and the various floors formed by boarding on wood joists. The internal walls, where they existed, were in many instances battened and wainscotted. The cavities and spaces thus formed flues which could hardly have been more effective if they had been designed for the destruction of the building. The two main staircases were of ordinary wood construction, having rough carriages, wooden treads and risers, and plastered soffits. There were balconies and iron escape ladders on three sides of the building, probably a total of six external escapes on each floor. The hotel was planned with a large central hall with double staircases extending on either side. The entrance hall ran from the front to the back of the hotel, and was a long and spacious thoroughfare, but this did not prevent the flames and smoke being drawn upward as through the draught of a flue. There was one passenger elevator and a goods lift; these structures no doubt contributed to the rapid progress of the fire. The building was reputed to be fireproof, but the Fire Commissioner declared that the building was one of the worst fire-traps in New York. There was great difference of opinion as to the cause of the disaster, but wherever the fire broke out it was probable that it had been smouldering for some time in some confined space before it was perceived, generating inflammable gases, which spread through the hollow floors, partitions, and cavities of the building until they suddenly ignited and involved the whole structure. The custom of artificially heating all buildings in the United States in winter so desiccates the resinous woods generally employed in their construction that they spread fire with a rapidity that can hardly be realised in our moist climate. It was stated that within an hour from the first alarm the entire block was practically destroyed. The building generally was heated by steam conveyed in pipes. There were complete arrangements to provide against fire, and the members of the staff were instructed in the use of the apparatus on the premises, but the organisation failed at the critical moment, and a panic resulted. This was borne out by the statement made on the authority of the Chief of the Fire Brigade, that the majority of the victims lost their lives through not knowing where to find the stairs, having invariably used the elevator. The elevator was so much an institution in American hotels that this opinion ceased to be surprising; and he (the speaker) had searched in vain for any record of the guests having used the iron escape ladders which were provided. If the main staircases were not known it was hardly likely that those communicating with the balconies could be. One of the lessons taught by the fire was that a high building of this character should be constructed throughout with external and internal walls, partitions and floors of fireproof material. No cavities should be formed in either the vertical or horizontal construction except smoke flues and ventilating inlets and shafts. Resinous woods should be excluded from the carcass and used sparingly in the finishings. No hotel should have more than six floors, devoted to guests, above the level of the pavement. All staircases should be enclosed with substantial walls and be constructed of fireproof materials; they should be clearly indicated by printed notices on every floor. One staircase should be provided for every 100 persons accommodated. Lifts should be encased in brickwork, and provided with a restricted number of openings to the various floors, and those of the smallest possible aperture. Each floor should be provided with fusible water sprinklers to flood the lift shaft as soon as possible, and so keep the fire down in these openings, which add to the danger of its spreading when it breaks out in the lower floors. Fires which spread rapidly are deadly whatever facilities are provided for escape. The position of the dead bodies in another New York fire indicated that the inmates had excellent knowledge of the facilities for exit; the staircase was practically intact, but the victims appeared to have been overpowered by smoke and heat, which probably ascended the well of the stairs and made the normal egress impracticable. A period of five minutes was a long time for human beings to be in an atmosphere rapidly losing its oxygen, and in lieu being charged with stifling smoke, and he was driven to the conclusion that the best means of escape possible would only prove effectual when the buildings were so constructed and arranged as to prevent, with certainty, the rapid spread of fire and smoke. The heating arrangements of New York hotels in winter were a very great source of danger. The rooms are heated to about 70 degrees, and with the use of resinous woods in construction, a fire spreads with remarkable rapidity. This was indicated by the destruction of the house that was burnt down in Fifth Avenue last April. It had excellent means of escape. It was a substantial good-looking building, apparently designed so that it should enjoy immunity from burning in any case; and the staircase was practically intact. There was an illustration of it published in the *Daily Graphic*, of the 19th April last, which showed the position of the bodies and how efforts to escape had been clearly made by the occupants, who had evidently known the whole plan of the house, but had failed to reach the staircase. Mr. Waterlow had made some excellent remarks as to the necessity for keeping smoke out of buildings. People were very seldom burnt in these fires, they were nearly always asphyxiated. In the great calamity which occurred at the Opéra Comique in Paris, many of the people never moved from their seats; they were found asphyxiated where they sat. If one considered the immense consumption of air that took place in feeding a fire, one realised with what marvellous rapidity people ceased to be able to breathe. Even if there were no smoke to asphyxiate, they would quickly become unconscious from want of air. In conclusion, he expressed his appreciation of Mr. Blashill's able and instructive Paper.

Mr. EDWIN O. SACHS, Chairman of the British Fire Prevention Committee, said that though it had been his good fortune to hear many Papers in different parts of the world, seldom had he heard such an instructive Paper as Mr. Blashill's, where so lofty a tone was observed in giving the general principles of fire prevention, and avoiding details of materials for fireproof construction and the like. There were two great features of the Paper he should like to refer to. The first was that architects were too prone to think that the fire prevention provided for by the Building Act was all that was required. The Building Act, as Mr. Blashill and Mr. Cates had pointed out, was the minimum—the absolute minimum; and this, if he might use a slang expression, ought to be "rubbed into" the junior members of the profession, who were growing up and destined to influence the architecture of the future. Laws ordained the minimum requirements, and architects should aspire to do a great deal better. The other point was the question of old buildings. It was a very knotty point how to apply fire prevention voluntarily to the old buildings. The great difficulty of the client had to be overcome. The client in nine cases out of ten would not think of fire prevention. They could not get their clients to think of fire protection in the same way that they thought of drainage. The moment the ordinary building client could be got to think of fire protection in the same way that he now thought of drainage, there would be some hope. Not until then would we get well-built buildings in the older and more dangerous parts of a city. Reference had been made to theatre safety. Personally he preached exit before construction. The great point was to get people out. Speaking from the official point of view, he would certainly say let the theatre burn down, that did not matter if only the exits were good and the people were got quickly out. If the theatre owner stupidly chose to let his house burn down, that was no concern of the public authority as long as there was no risk to life and limb. As regarded factories, the growing tendency was to put factories outside the area of the county of London, not perhaps, as some might suppose, to avoid the Factory Acts as applied in the county of London, but to have the many other facilities which factory building outside that area brought with it—namely, space, room, air, light, &c.—and the more they could encourage factories going outside the area, the better it was for London generally. Regarding the other classes of building, the hotel question, one of the most important, had been absolutely neglected. Nine out of ten hotels in London at the present moment were death-traps. He had gone over many of them from a fire point of view, and he was sure gentlemen who exercised public control over buildings would bear out his statement. It was high time something should be done to buildings where people congregated at night as well as by day. He should like to be allowed to propose a vote of thanks to Mr. Blashill for his admirable Paper.

Mr. H. HEATHCOTE STATHAM [*F.*] said that, with regard to theatres, he thought that all the considerations about exits brought to their minds the want of having what he would call a symmetrical site for theatres; so long as they had an angle site they got an entrance at one side, and the consequence was that at the exit all the audience crowded to one point. He happened to go into the pit of a London theatre two or three months ago, where there was a corner entrance; it was rather crowded, and as soon as the play was over he noticed that the whole of the audience were pushing to a corner towards the corner door by which they had entered. There was an emergency exit door on the other side, but they took no notice of that; they went to the door they entered by. If there were a symmetrical plan, and the people were got into a central lobby, and those at the right hand of the lobby were put into the right hand of the house, and those at the left hand of the lobby into the left hand of the house, the people would go out the same way as they went in; but when they enter at an angle, they make for the same place when they go out; and, if there is any panic, there they crowd and there the danger is. That was an important reason for getting symmetrical sites to theatres with an equal access at each side, and they were very much in want of that in London.

Mr. C. FORSTER HAYWARD, F.S.A. [*F.*], remarked upon the extreme carelessness that was one of the great causes of fires. Mr. Blashill had referred to country-house fires. Only last night there was one within four miles of Windsor, the particular circumstances of which were worthy of note. The heating apparatus had gone wrong, and they determined to repair it at night, when the occupants of the house were in bed. The men came to attend to it, and by some means dropped a candle into a hole, where they could not get it out, and in a moment there was a blaze—the house was quickly full of smoke, and it was with great difficulty that the gentleman and his family were able to escape. That was a single case, confirming what he thought was one of the great causes of evil—namely, the carelessness with which these buildings were not only constructed, but attended to while they were being constructed, or while they were being repaired. He would mention one or two other cases that had come under his observation. Only the other day, when visiting a building, a large place of entertainment, for inspection in the ordinary course, at the very top of the roof he found four candles just stuck down upon a board, and the whole of the adjoining floors connected with the new roof, which was of wood, were covered with shavings, the *débris* of some carpenter's work. There was nobody about at the moment, and the slightest movement, accidental or otherwise, might have set the whole place on fire. Almost the next day he went into one of the largest hotels that was being built, and no sooner had he got in at the ground floor than he saw a quantity of straw smouldering, and there was straw all over the place, the room having been used for emptying packing-cases. There was nobody near it, so he put it out himself. These were two instances of carelessness within a week where two very large fires might have occurred unless some person had come in at the moment and put them out. That was one of the things he wanted to impress upon architects, to endeavour to get the contractors to have perfect control over fire and all risks of fire by more careful superintendence than there seemed to be at present. With regard to staircases in hotels and public buildings, and private buildings also, now that these were often constructed of concrete, patent or otherwise, built upon the spot, there was immense risk of the stairs in the smallest fire dropping down from the "attachment" into the walls (he used the word advisedly) unless they were properly supported on the outer side. He had had to insist upon that very strongly, because he found that there had been one or two accidents when a fire occurred. For instance, in case of a fire in an hotel the people naturally rushed down the staircase, and if only one of the treads gave way at a corner or at the turning, and it was not supported on the outer edge, those who were on the stairs were liable to be immolated in the fire, and probably those above could not escape. A particular instance had come under his observation. Some six or eight years ago there was a very small fire at Montague Place, the houses in which back upon the British Museum, where there are as many as sixty or eighty large windows, most of them lighting rooms where priceless antiquities and MSS. are preserved. The fire occurred in a small building not above a story in height, but the fire spread into the hall and the staircase, which was of stone. Some ladies were about to descend the staircase when the stairs, not being supported on the outer side, gave way, and if they had been two or three steps further down they would have been precipitated into the fire. As it happened, they went back into the room and got out by the balcony and escaped. One result was to call the attention of the authorities to the danger that threatened our National treasures at the Museum by the likelihood of fire so near the Museum windows. Fortunately the engine of the British Museum was quickly got into action and put the fire out. But, apart from this great danger, the occurrence emphasised his remarks with regard to supporting the outer side of staircases. At the present moment there was a great tendency to build staircases of concrete and iron, in such a way that the construction was liable to collapse when attacked by fire. He had nothing to say against the principle of concrete staircases; properly supported it was as good a fire-resisting material as possibly could be; but in the practical working it was liable to great danger. He had much pleasure in seconding the vote of thanks to Mr. Blashill for his very admirable and valuable paper.

The PRESIDENT in putting the vote of thanks, which was carried by acclamation, referred to what had been said about the apparent unwillingness of architects to go beyond the minimum they were legally required to go. He thought there was a higher feeling than that, which should induce architects to do their utmost in this respect—namely, the moral responsibility attaching to an architect who erected a building in which a disaster might result from his negligence. He did not know what the feelings of architects generally were when they erected buildings—he knew what his own were; but some of them would realise that moral responsibility most deeply, if such a disaster occurred to one of their buildings. The matter of exits was certainly more important than the matter of fire-resisting material, and he was confirmed in this from observations of his own in America. He remembered seeing two buildings in Chicago that were absolutely gutted; all the iron columns and joists had twisted like threads. He happened to be driving with three architects at the time, and as they passed the buildings he inquired who built them. Curiously enough they were built by a gentleman of the name of Burn—a very suggestive name, for both the buildings were completely burned. This gentleman declared that they were built in the most fireproof manner that was known at the time. Since then he believed they had done a little more in the way of casing iron in concrete; but the fireproof material employed in the buildings he had mentioned did not prevent them from being absolutely gutted. With regard to the difficulty of finding the way out of hotels, he remembered in an hotel in the south of England, and also in some hotels in America that he stopped in, there were skeleton plans of each floor hung up in every bedroom, and the exits were clearly indicated on the plans. It was a most reasonable thing, in these days of easy multiplication of plans, to place a plan of each floor with the nearest fire-escape and exit in each bedroom.

Mr. BLASHILL, in responding, referred to the fire in Hyde Park Court which had been mentioned. At each end of the building there was a suite—that is, in front of the building there were two suites—of apartments, one to the right and one to the left of the staircase. One was burnt out and the other remained. The only difference he could make out between the two was that in one case the outer door of the suite had been closed, and in the other case it had been left open; they were simply ordinary doors. That showed what great effect the door had in preserving one of the suites. He quite appreciated the difficulty referred to by Sir John Taylor, in nailing a wooden floor close down on concrete. He could only say they must take care to get over it in some other way as well as they could. There was a fire-resisting building within seven minutes' walk of the Institute in which a fire took place and was spread through that cause, which did £3,000 worth of damage: so that that aspect of the case was worth consideration. He was much obliged to Mr. Riley for bringing to their notice the New York Regulations—they were extremely interesting. In the fire in the Exeter theatre about fifteen years ago the same phenomena occurred of people dying sitting in their seats in the gallery. A large proportion of the deaths in similar cases were of people who never rose at all. Dense volumes of smoke ascended instantly to the gallery, and the people died where they sat. He was glad they all agreed that the Building Act was the minimum. They must drive that well home to their clients and friends. The Building Act was the minimum. They could put it to their clients in this way: "Here is a line drawn by Parliament—the Building Act; on one side you go before the magistrate, on the other side you escape!" No prudent person would like to run it quite so fine as that. He was extremely grateful for the way his Paper had been received, and he hoped their deliberations that evening would have fruitful results.

FIRES IN THEATRES.

Mr. Wm. Paul Gerhard, an American engineer, who has devoted much time and attention to the study of prevention of fire, has issued, through the British Fire Prevention Committee, yet another pamphlet on theatres, entitled "The Safety of Theatre Audiences and the Stage Personnel against Danger from Fire and Panic."

Mr. Gerhard opens by remarking upon the desirability of ever keeping this subject before us, and not depending upon the excitement of the moment caused by some great catastrophe before carefully considering the measures or precautions against the well-known dangers to life and limb in structures, which are either neglected or forgotten, and he refers to the flood of plans, pamphlets, newspaper articles, and revision of regulations which followed the calamity of the Ring Theatre in 1881, the Exeter fire in 1887, and the Paris Charity Bazaar disaster in 1897.

The writer of the essay gives some statistics of theatre fires, which, although interesting, can be of small use to the architect, because the development in theatre planning, construction, and lighting has during the past few years removed so many of the dangers from fire which formerly existed, when fireproof tiers and fireproof curtains were almost, if not entirely, unknown. Mr. Gerhard then enters in detail upon his subject under five headings. He first comments upon the means that should be adopted for escape in case of fire, and it is regrettable that the author of this paper is unable to give us any suggestion that has not been fully dealt with by previous writers on the subject. There is little in this section of the paper that is not already contained in the regulations of the London County Council; and little that is not carried out by British architects whose practice lies in this direction.

The theory that each division of the audience should have two entirely separate exits, at least 4 feet 6 inches wide, is the basis of the whole of the London County Council regulations. That clear and good planning will greatly contribute to the safety of the audience is admitted by all authorities; and the carrying out of this in erecting a theatre does much to secure the quick and safe departure of the audience.

In 1884 the Society of Arts published a paper of mine, in which I went a step further and advocated symmetrical planning: where an entrance is placed on one side of the house an exit should be planned on the other side in a relative position. The condemnation of "emergency" exits is a very right and proper one, and I quite agree with Mr. Gerhard's approval of that entirely English arrangement, a sunk pit, a form of planning so frequently adopted by the late Mr. Phipps. This arrangement, as is pointed out, reduces the height of the gallery above the street, and shortens the exit from the most dangerous part of a theatre.

In the Abbey Theatre of New York City, Mr. Gerhard tells us, the exit doors are controlled by electric openers, which are operated by pressing a button, either from the stage or from the manager's office: the device seems to me to be more ingenious than safe, as the operation depends upon the presence of some individual to press the button, who would probably be the first to run for his own life on a call of alarm. The automatic bolt in use in England, which can be opened by anyone by pressure from within, appears to me to want a lot of beating as a safe door-fastener in a theatre.

Mr. Gerhard treats fire-resisting construction as "by no means absolutely necessary;" he depends for safety upon good planning. I am with him so far as to say that bad planning with fire-resisting construction has its attendant dangers; and that an ill-planned fireproof staircase may not prove to be as safe as a well-arranged wooden one; but, at the same time, as far as the exits are concerned, I do think fireproof construction absolutely necessary. I cannot, however, agree with some members of the Fire Prevention Committee, who carry their fire-protection theories so far as to require the steel work and cantilevers of which the tiers are constructed to be embedded in concrete, in addition to the protection already provided by wire lath and plaster ceiling. My opinion that this is unnecessary is borne out by the Fire Brigade officers, who look upon such protection as a danger to them, as the concrete is bound to fall in lumps from an unexpected source when a great heat reaches the cantilevers.

Mr. Gerhard next speaks of the necessity of the actual test of time required to empty a theatre, and gives several examples. It may be interesting to note that at the Camberwell Theatre of Varieties, which I have recently erected, there were 2,500 persons present on the opening night, and that it only took one minute to empty the building on that occasion. This leads me to the next point in the paper, which deals with width of staircases, and to note the remark that "very wide stairs should be divided in the centre by a rail." With this I do not agree, as I think a staircase should never be made so wide as to require a central handrail. Six feet should be the maximum width; and if this is not wide enough to carry off the people, then an additional and separate exit staircase should be made. It is this system that I have adopted at the above-mentioned Theatre of Varieties.

Next, as to width of seats, Mr. Gerhard speaks of 18 to 21 inches as sufficient. I agree with him. The London County Council's rules will not allow a seat, which is in any way divided as a separate seat, to be less than 20 inches. If the seats are continuous, as in the gallery of a theatre, then the people, as is well known by experience, sit much closer than even 18 inches. That the seats should, where there are backs, be tip up, or, as Mr. Gerhard says, "flap seats," is most desirable; in order to "afford more room between the rows for people passing between them."

The separate system mentioned of lighting exits entirely, independently from the stage and auditorium, is one which has long since been adopted in London, and is a most necessary precaution for the "safe retreat of an audience."

Section II. deals with the measures tending to prevent an outbreak, and for quickly detecting and signalling a fire. First, there is the essential question of site, and the avoidance of adjoining risks by isolating the building, or separating it by strong party-walls, where an isolated site is not attainable. Two streets are required in London; but Mr. Gerhard points out that in recent American "theatre buildings a compromise has been effected by making provision for wide courts on both sides:" a provision which every architect knowing the value of land would ask the authorities seriously to consider in the metropolis, as safety can be attained thereby quite as well as through the present system of creating unnecessary thoroughfares at enormous expense, for the necessary lands and roads required by the present London County Council rules.

We hear that these rules are now under consideration for revision, and this is a point which the Council would do well to reconsider; it would allow the continental system of external staircases, which permit the immediate discharge of the audience into the open air, at whatever level the public may be—gallery, balcony, or pit. There is, indeed, much to be said for the system, at present entirely excluded by the regulations enforced in London, quite apart from money value, which alone is an important consideration.

Mr. Gerhard, under this section, again refers to clear and symmetrical planning, and the open-court system would greatly add to the carrying out of this most desirable end, as both sides of the house could be made identical. With a street in front, and another at one side, this is impossible; with a street in front and courts at *both* sides, it can easily be done. Again Mr. Gerhard lightly passes over the question of construction so far as the auditorium is concerned, but he dwells fully upon the stage as being the chief danger point of a theatre. Briefly, some of our authorities are satisfied if there is a fireproof separation between stage and auditorium, and if the stage is made as light as possible, with wooden roof and large ventilator to create quick draught to cause rapid burning out of the stage effects should fire occur. Mr. Gerhard advocates fire-resisting flies and gridiron, chemically impregnated woodwork, scenery, and dresses, scenes covered with fireproof paint, and even "decorations" (which, I suppose, means scenery) of sheet iron or asbestos, wire ropes, and hydraulic or electrical appliances, to render as much as possible non-inflammable.

I am quite adverse to the wire rope suggestion, as a flaming cloth is frequently stamped out by cutting the hemp ropes, and letting the scenes fall on the stage.

The substitution of the electric light for gas on the stage has reduced the risks almost to a minimum, so far as directly igniting the scenery from the old and dangerous naked gas battens, and therefore for modern stage productions the suggestions made seem to go a step too far. When authorities differ as to the stage construction, as they do even in London, it is difficult for the architect to determine what course to pursue; but my experience teaches me that the theory of the London Fire Brigade is correct—*i.e.* a stage well divided from the auditorium by a double asbestos curtain, with a large ventilator for up-draught, and the contents such as will quickly burn themselves out before the extreme heat has power to affect the more solid portions of the structure. One of the latest theatre fires in the North caused damage and destruction to a stage constructed on these lines, and the architect himself informed me that, owing to the asbestos curtain, even the draperies in the private boxes were not singed.

Careful watching is the best preventive of fire, as the writer of the paper under review remarks; and this watching must be both private and official.

Section III. deals with measures to protect the audience from fire and smoke, and here Mr. Gerhard describes the various kinds of so-called fireproof curtains, and remarks that "corrugated iron curtains are by far the best of all iron curtains, as they are strong and fire-resisting, and smoke-proof." Surely no corrugated iron curtain would ever resist the effect of heat caused by a stage fire, without twisting so much out of shape as to admit both smoke and flame into the auditorium.

In my opinion Mr. Gerhard is right in saying that a much more practical fire curtain consists of thick and strong woven asbestos cloth; there is no curtain like the asbestos curtain.

Ventilation as a preventive of fire is touched upon, and the provisions for opening and closing the ventilators to direct the draught towards the stage in case of fire, and to keep the smoke back from auditorium and staircases.

A wise provision, not always considered, of placing staircases next external walls, to obtain windows and ventilation, is mentioned by Mr. Gerhard. "Inside staircases," he says truly, "are bad, as the air in them may become full of smoke."

Section IV. refers to the means for protection of the stage personnel. Isolated dressing-rooms, the same precautions as to exits and staircases as for the audience, " leading into the courts on each side of the theatre," iron fire-escapes, ventilation, lighting, and the regulations made by the management are all touched upon.

As one would naturally expect from an American writer, under Section V. for means for localising and restricting a fire on the stage, the automatic fire-alarm system is mentioned by Mr. Gerhard. He wisely speaks of its efficiency when " regularly tried and maintained in good order." Without such precautions any automatic alarm is certain to add greatly to the danger of panic, for if it " goes off " at a high temperature, such as would arise on a stage, a stampede would commence, even if no fire had broken out.

Of the remaining sections, VI. and VII. deal chiefly with fire-brigade work—means of saving life and fighting outbreaks of fire; while VIII. dwells upon the means of guarding against panic. The keynote is struck in the words, " much can be done to prevent dangerous panics by giving the audience a feeling of security."

I cannot close my remarks upon this paper without again referring to the differences of opinion expressed in print and otherwise by the gentlemen of the Executive of the British Fire Prevention Committee. We are told by Mr. Gerhard that one member looks upon fire-resisting construction as last in order of importance, and at the same time we find other members demanding fire-resisting construction, which the greatest authorities in the metropolis on fire questions—the Fire Brigade—say must add to the danger of a fireman fighting the flames. Knowing, as I do, and have done for the past ten years, Mr. Paul Gerhard to be a conscientious student of this subject, it is with great pleasure I advise, in spite of difference of opinion, the careful study of his Paper, as much valuable information can be gained therefrom.

ERNEST A. E. WOODROW.

Fire Risks.

A letter from Mr. Montague Crackanthorpe in *The Times* of the 19th inst. calls attention to a source of fire risk hitherto quite unlooked for. He says :—

> One evening last week a fire broke out in my house with such apparent spontaneity and in so novel a fashion that some account of it may be both interesting and instructive. My wife and I were sitting in the drawing-room when we became aware of a smell of burning wood, and shortly afterwards perceived rings of blue smoke coming through the crevices of the boards close to the hearth and beyond the edge of the carpet. Hurrying towards the door, I had just reached the middle of the room when, to my surprise, my foot passed right through the carpet and the floor into the hollow space underneath, which is consecrated to joists and other woodwork. I then realised that the floor was ablaze, although, owing to the smothering effect of the carpet, the flames were confined to the centre. With the help of cans of water and of the fire brigade, which arrived after a few minutes, the fire was arrested without much damage being done. Had the flames burst forth after the household had gone to bed, or had another foot than mine stepped through the floor, the consequences might have been very serious.
>
> To explain what had happened it is necessary to mention one or two details. Two years ago the house was lighted with electricity throughout, the supply being taken from the mains of one of the local electric-lighting companies. From the " rose " of the ceiling of the room below the drawing-room hangs a 32 candle-power lamp which is fed from an 18-gauge Silvertown wire. This wire (with two others of 16 gauge) is laid in the space above the ceiling, and is attached to two flexible cords, each consisting of 35 strands of very fine wire and covered with silk in the usual manner. The attachment of the wires to the cord is made by twisting the first round the second and soldering. By some unexplained mischance (for the fire destroyed all direct evidence of its own origin) these wires, or some of them, became partially stripped of their insulating coats, and so the current, instead of going through the lamp, found its way across what was at first a minute interval of air, but which, when the switch was on, was sufficient to set up a tiny arc-light at that point. This arc-light, the formation of which was probably assisted by oxidisation of the exposed wire, had a tendency to increase in size, and at last it became so powerful that, after consuming the wooden casing in which the wires are laid, and still further injuring the insulating fabric, it started a short circuit. This, of course, blew out the safety fuse, but not until the floor was well alight. The above theory is that of the electrical engineer who was responsible for the wiring, and also of the highly intelligent official from the electrical department of the London County Council, who, on the report of the fire brigade, called to inspect the premises. No question of overloading arose, as there was only one lamp on this particular circuit.

Mr. Crackanthorpe offers the following practical hints to users of electric light :—

> 1. If I were wiring my house afresh I would have no encased wires under the floors, but would lead them along the ceilings and the insides of the rooms so that they might be always in sight. If this had been done in the present instance the arc-light must have declared itself almost as soon as it was formed. 2. Instead of casing the wires in wood, as is the nearly universal practice, I would case them in asbestic plaster or some other fire-resisting material. 3. I would have the whole of my wires tested for leakage at least every twelve months, both by the earth test and the pole-to-pole test.

A New Fireproof Material.

The *Street Railway Journal*, an American publication, describes a new fireproof material. It is made of granite chips, pulverised, moulded into form, and fused together at a temperature of 3,000 degrees Fahrenheit. Its crushing strength is very high. It can be heated red-hot and thrown into cold water without being injured. It resists the action of acids and alkalies and is frostproof, having been tested by liquefied air at a temperature of 350 degrees below zero without injury. A test made at Niagara Falls showed that it required 56,600 volts to penetrate about one-half inch of the material.

9, Conduit Street, London, W., 23rd Dec. 1899.

CHRONICLE.

The New Vauxhall Bridge.

The following correspondence has passed between the Council of the Institute and the London County Council:—

8th November 1899.

Sir,—The Council of the Royal Institute of British Architects, having before them the report of their delegates who were so courteously afforded the opportunity of examining the drawings and models for the proposed new bridge at Vauxhall, desire most respectfully to submit the following points of criticism and suggestion for the consideration of the London County Council:—

1. The main piers should be increased in width if this can be arranged with the Thames Conservancy.

2. The great projection of the cutwater in front of the pier seems unnecessary in so wide a bridge. A flat band with slight projection would serve its purpose better than the large projecting capping. The form of the weathering upon the cutwater is unsatisfactory.

3. The semi-circular projection on the piers should be treated as part of the pier, and not as an attached column. (At present the stopping of the neckings to cap and base against the rustication is very awkward merely as a matter of detail.)

(4) The projecting quoins at either side of the pier upon the flat spandril of the arch have no significance and no architectural value, and should be omitted.

It is a question whether it would not be a distinct improvement to the pier to omit the semi-circular column upon the face of the pier and the detached column it carries altogether, and to treat the pier as a square one to the same design as the flat portion now indicated, but with greater projection.

This would obviate the awkwardness of the raking lines of the caps of the circular columns which has been ignored in the model and $\frac{1}{4}$-inch scale drawing.

(5) The arch, although increased in depth, is still painfully thin in appearance. Some expedient should be adopted whereby the voussoirs can be deepened.

(6) Having regard to the weakness of the arch as designed, we think it inexpedient to emphasise it by the heavy rustication. The treatment of Waterloo Bridge might be studied with advantage as regards both arch and spandril.

(7) There is nothing to show how the granite is returned under the soffit. The voussoirs should be properly bonded as quoins on the soffit.

(8) The alternate narrow and broad dies in the balustrade have a restless and unmonumental appearance. They would be improved by being of one size throughout.

It is a matter of question if a solid parapet would not assist the appearance of solidity which the bridge now appears to lack.

Generally speaking, the Council are of opinion that the architectural treatment and detail of the bridge lack that distinction of style and scholarship which may be reasonably looked for in a great monumental work of the kind, and they still feel that very great advantage would accrue if competent architectural advice were sought. The Council hear with satisfaction that it is apparently intended that one coloured granite is to be used for the whole structure.

I am directed by the Council once more to express their appreciation of the courtesy by which the opportunity has been afforded them of laying their views before the London County Council.—I am, Sir, your obedient Servant,

W. J. Locke, *Secretary.*

C. J. Stewart, Esq.,
Clerk: London County Council.

Spring Gardens, S.W.: 25th November 1899.

Sir,—I am directed by the Bridges Committee, to whom your letter of the 8th instant has been referred, to thank the Council of the Royal Institute of British Architects very sincerely for the trouble which the delegates of the Royal Institute have taken in examining the drawings and models for the proposed new bridge at Vauxhall and for the suggestions which are embodied in your letter. I am to assure you that those criticisms and suggestions will have the most careful consideration, without impairing the responsibility of the Chief Engineer for a structure which necessarily, and in accordance with every precedent, falls within the business of his department.—I am, Sir, your obedient servant,

C. J. Stewart,
The Secretary R.I.B.A. *Clerk of the Council.*

Arts and Crafts in Australia.

It is gratifying to learn, on good authority, that there is a growing demand in Sydney and other large towns for art workers in various branches. The writer, who is one of the leading architects in the Colony, says in a letter to a London colleague, "We are at a loss out here for good art workmen of all kinds. There are plenty of third-rate men, and there is only one highly-skilled worker in metal. There is a good opening in all branches, workers in wood, iron, stone and metal; also for stained-glass workers, modellers and designers in plastic materials, decorative painters, and men skilled in the working of marble and mosaic. Young men, with a small capital but with artistic capacity, would be the most suitable. If without capital, they could readily get employment here at good rates of pay. The one essential is that they should be good men. Of course, good men can always find employment 'at home.' But as there may be many with incipient lung or chest complaints, bronchitis or affections of the throat, this climate could not fail to be of great benefit to them. For general information as to the Colony, our Agent-General, Sir Julian Salomons, will, I am sure, if applied to, furnish all that is required."

The proposed British School at Rome.

The Institute has received from the executive committee the following communication respecting the proposed British School at Rome:—

The British School at Athens has now been in existence for thirteen years, and, in spite of its comparatively slender resources, it has won for itself an honourable place by the side of the older and wealthier Schools of France and Germany.

But a British School at Rome has still to be established. Germany, France, Austria, and now the United States, all possess more or less well-equipped institutions; Great Britain, almost alone among the great European States, is unrepresented.

The time has surely come when this omission should be supplied. For many years past excellent work has been done in Rome by British scholars, archæologists, topographers, historians, and students of art. Every winter season finds British students at work there in one line of study or another, while the number of educated travellers who visit Rome steadily increases.

What is needed in Rome is what is now provided at Athens, a recognised British centre of study and research, which should offer to British students the advantages which German, French, and American students already enjoy.

The establishment of such a School would be warmly welcomed by the Committee of the School at Athens, not only on general grounds, but because of the opportunity it would give to their own students to complete the training received at Athens by a period of study at Rome, and *vice versâ*. The two British Schools would in fact help and strengthen each other.

It has also been ascertained that the proposal has the cordial approval of English residents in Rome, and of H.M. Ambassador to the Quirinal.

The work to be done by a British School at Rome would in many respects be similar to that at present done by the School at Athens.

(1) It would be a training-ground for students fresh from the Universities or other institutions, who would receive there the help and guidance which are perhaps more needed in Rome, with its complex history and varied interests, than anywhere else.

(2) It would serve as a centre round which more mature students would naturally group themselves. Such a recognised centre would not only stimulate intercourse and sympathy between workers who are now isolated, but would, as the experience of the older Schools in Rome has shown, make more concerted and continuous work possible.

(3) The School would also, it may be hoped, prove of assistance to British visitors anxious for information and advice in the study of the perplexing confusion of monuments with which the traveller is confronted in Rome.

On the other hand there would be differences due to differing conditions. In the case of the School at Athens the excavation of ancient sites has naturally formed an important part of the work. But a British School at Rome would, like the existing foreign Schools, be debarred from excavation by the rules of the Italian Government. Though, however, excavation is out of the question, there would be plenty of work to be done in topographical exploration, in the study of museums, and in the examination of the results yielded by the excavations undertaken by the Italian authorities. In addition, we may refer to the growing importance of the prehistoric antiquities discovered in recent years, and to the field for investigation offered by Magna Græcia and Sicily.

It is obvious, too, that in some respects the work of a School at Rome would be more many-sided than is possible at Athens. It would be less predominantly classical and archæological, and its students would be found in the galleries, libraries, and churches, as well as in the museums, on the Palatine, and in the Forum. A School at Rome would also be a natural centre from which work could be directed and organised at Naples, Florence, Venice and elsewhere in Italy.

It is not therefore only to those who are interested in classical history or archæology that the proposed School should be of service, but equally to students of Christian Antiquities, of Mediæval History, of Palæography, and of Italian Art.

It is clearly desirable that the School at Athens and the School at Rome should be closely and intimately connected, and should, if possible, be managed by a single Committee; and that the Universities, the British Museum, and other learned bodies should be given as direct an interest as possible in both. It would, moreover, be of great importance to connect the Record Office, and its representatives in Italy, with the School at Rome.

The immediate control of the School would necessarily be vested in a director, who should be a man of wide sympathies and of sufficient attainments and standing to hold his own with the heads of the foreign schools.

It would be essential to secure a house or flat, where at least a library and reading-room could be provided, and probably apartments for the director.

It would also be desirable, as in the case of the School at Athens, to offer at least two Studentships every year to be held at the School.

Taking all these needs into consideration, it is estimated that the smallest sum which would be required to establish and to maintain the School in any degree of efficiency would be for initial outlay £3,000, and for income £1,000 a year.

It is proposed to issue, in the spring of next year, an appeal for the Schools of Rome and Athens jointly; and all persons interested in promoting the study of art, archæology, and history, mediæval as well as classical, are earnestly invited to cooperate in making that appeal effective. In the meantime, subscriptions and donations in aid of either School, and promises of support, will be gratefully received and acknowledged by the Hon. Treasurer of the British School at Athens, Walter Leaf, Esq., 6, Sussex Place, Regent's Park, N.W.

Further information with reference to the proposed Roman School can be obtained from Professor H. F. Pelham, Trinity College, Oxford; Professor J. S. Reid, Caius College, Cambridge; or William Loring, Esq., 2, Hare Court, Temple, E.C.

The late Stephen William Williams [*F.*].

The death took place at Sandown, Isle of Wight, on Monday morning, the 11th instant, of Col. Stephen W. Williams [*F.*], F.S.A., High Sheriff of Radnorshire, after a long and painful illness.

The deceased was the eldest son of the late Mr. Stephen Williams, of Mellington Hall Farm, Shropshire. He was born 7th June 1837, and married Maria, youngest daughter of the late Captain Horatio James, R.N., who survives him. Mr. Williams was articled at Silverdale, Staffordshire, and came to Rhayader, commencing business at Penralley. At the Easter Quarter Sessions for the County of Radnor, on 7th April 1864, he was appointed County Surveyor, which position he held until March last, a period of thirty-five years.

In 1878 Mr. Williams was the principal mover in starting the Rhayader Company of the Herefordshire Rifle Volunteers, and became the first Captain. Subsequently he attained the rank of Major, and finally rose to the command of the battalion, but owing to failing health he retired a few months ago. He took a great interest in Volunteering, and was quite an authority on tactics.

Col. Williams was deeply interested in archæological and antiquarian questions, and had written many Papers on these subjects. His greatest effort was *The Cistercian Abbey of Strata Florida*, a standard work, published in 1889, giving its history and an account of the recent excavations made on its site. He took an active interest in the excavations made at Talley Abbey, Carmarthenshire, and in the investigations respecting the old abbey at Cwmhir, Radnorshire. He was a member of the Cymmrodorion Society, and took a deep interest in matters affecting the national customs of Wales.

Col. Williams was appointed High Sheriff of the county of Radnor in March last, and his last public appearance was at Presteign on 19th July, when he entertained Mr. Justice Bruce at the Summer Assizes. A short time previous to this he attended a coroner's inquest at the Court House, Rhayader, as the legal custodian of the treasure-trove found in the neighbourhood, and as a witness displayed an intimate acquaintance with the antiquity and value of all the articles discovered, which consisted of a massive gold ring set with onyx, an amulet, and a necklet, all of a Roman type and most delicate workmanship. The articles are now deposited in the British Museum, and the finder received for them about £50.

Col. Williams was an eminent authority on Church Architecture, having been engaged in the restoration or erection of numerous churches, not only in Radnorshire, but throughout Mid-Wales. One of his best works was a new church erected at Newbridge-on-Wye for the late Mr. George Venables, Q.C.

MINUTES. IV.

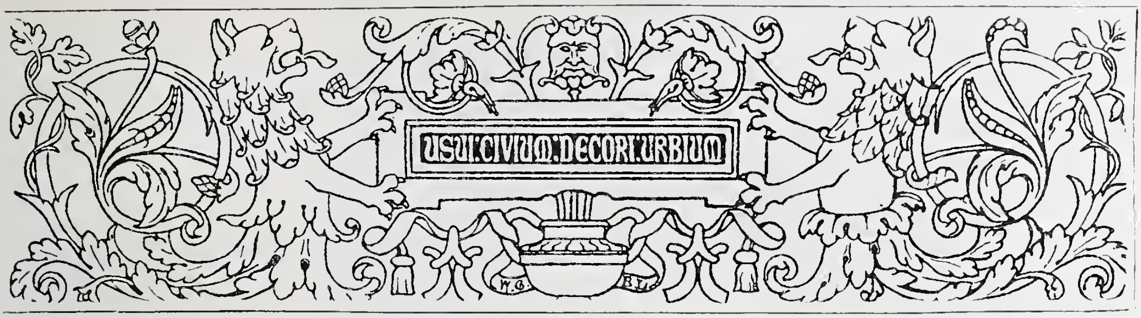
At the Fourth General Meeting (Ordinary) of the Session 1899-1900, held on Monday, 18th December 1899, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 17 Fellows (including 10 members of the Council), 13 Associates, and several visitors, the Minutes of the Meeting held 4th December 1899 [p. 56] were taken as read and signed as correct.

The decease was announced of Stephen William Williams, F.S.A., of Rhayader, *Fellow*.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted by them to candidature, were recommended for election—namely: As FELLOWS, Herbert Baker [*A.* 1890, *Ashpitel Prizeman* 1889], Cape Town; Frank Gatley Briggs, Liverpool; John Murray [*A.* 1892]; Harry Vernon Wolstenholme, Blackburn.

A Paper by Mr. Thomas Blashill [*F.*], entitled THE ARCHITECT IN RELATION TO FIRE PREVENTION, having been read by the author, and a communication from Mr. Arthur Cates [*F.*] on the same subject having been read by the Secretary, a discussion ensued, and a vote of thanks was passed to Mr. Blashill by acclamation.

The proceedings then closed, and the Meeting separated at 10.10 P.M.



ARCHITECTURE IN THE TRANSVAAL.

By JOHN BEGG [*A.*], of Johannesburg,

PUGIN STUDENT 1890, ASHPITEL PRIZEMAN 1891, INST. MEDALIST (ESSAYS) 1894.

AT a time when such gigantic interests as the possession of the richest gold and diamond fields in the world are being contested to the death, when civilisation is resolved into its primary elements, and life, liberty, and property are for him alone who can take and keep them by force, it may seem a trivial thing to dwell on the concerns of our comparatively unimportant calling. But it is well to remember that the Transvaal has had another life quite apart from the military aspect it bears at present. It has been steadily developing a life apart even from that of feverish speculation in company-promoting at one end of the scale, and turf sweepstakes at the other—I mean the life of everyday industry, of trades, businesses, and professions. At one time, back in the eighties, it was said that there were more members of the Royal Institute of British Architects in the town of Johannesburg in the Transvaal than in any town in the United Kingdom other than London. Whether or not the statement was a true one, it is sufficient to show the extent to which, I will not say the arts, but the callings of peace were followed, to remark on the fact that before the present war broke out the Johannesburg Directory contained the names of about forty practising architects. Therefore a few words about architects' work in the country that is so much before the eyes of the world at present will surely be of some interest to their professional brethren at home.

The Transvaal is a country so very new that I think it would be hardly fair to it, or to those architects who have identified themselves with it, and who have every intention of continuing to do so, to give any account of individual buildings such as would be required in an article written on, say, Cape Town, or any other place equally old-established. It would be especially unfair to reproduce photographs of buildings, for few of the architects would care to have their work thus placed in comparison with work produced under much more favourable conditions. For I may as well begin by admitting that plenty of critics, and not too captious critics either, if they were to look at what has been built in the Transvaal, might object to the use of the term "architecture" altogether in this connection. But I wish to show that this is not the fault of the architects of the Transvaal, or indeed of anyone in particular. I freely acknowledge that the average standard of excellence* in design and execution is very greatly below that of home work. There has been little done to which the stigma of speculative building could not be justly applied. We can show few, if any, public buildings, practically no churches worthy of the name, and but few private mansions.

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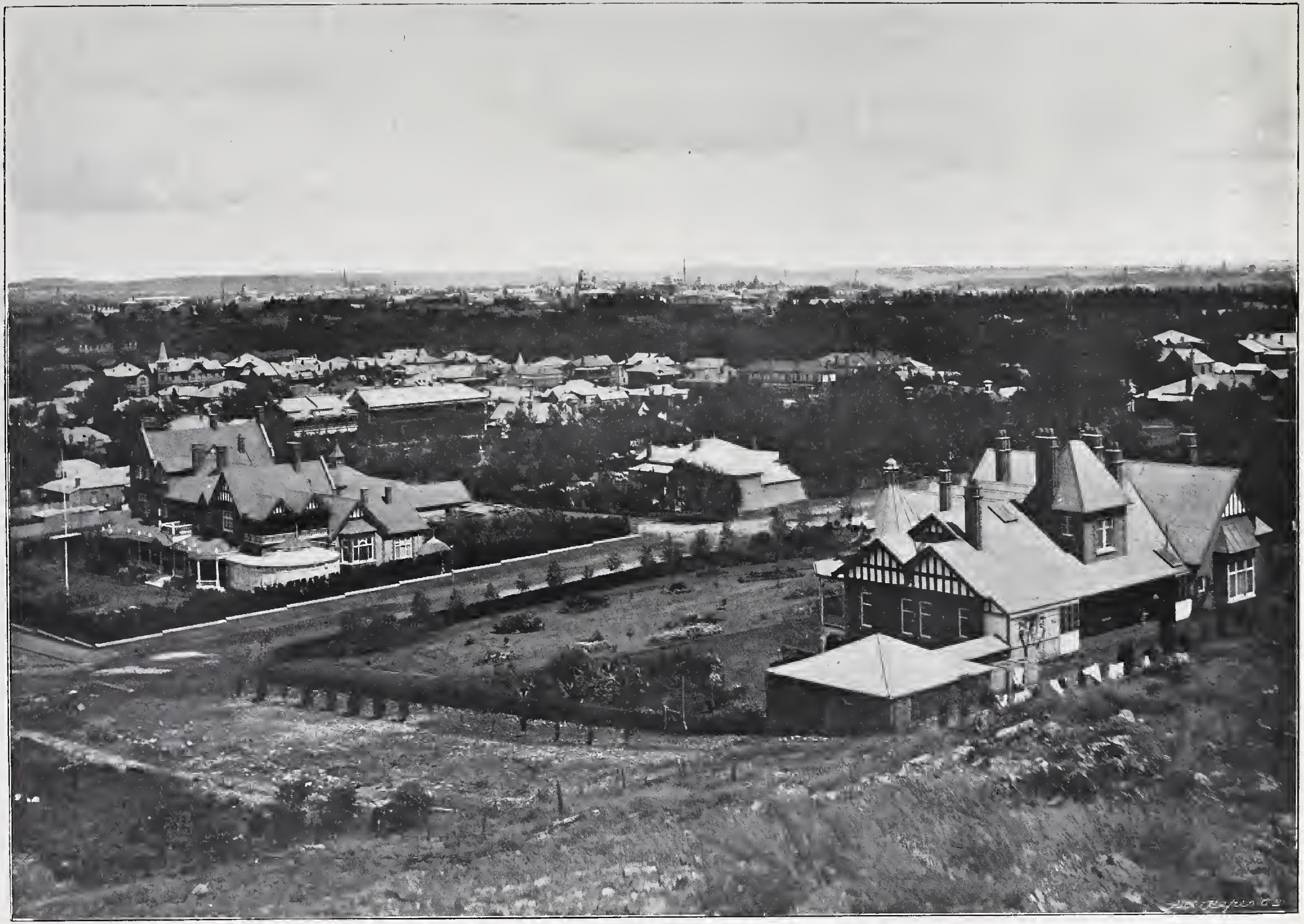
* It must be borne in mind that I am speaking of the *average standard of excellence* in this article throughout. There are many buildings in Johannesburg which are notable exceptions to the strictures I may pass on building as a whole.—J. B.

Johannesburg, the only town of the country having any claim to rank as a city (in the modern sense), being the centre of all commercial enterprise, is emphatically a town of rent-producing buildings. You may look in vain from Lorentzville to Mayfair, from Hillbrow to Ferreira, for any building free from the "trail of finance," and often most sordid, cheese-paring finance at that. There are imposing enough piles; there are flashy street-fronts; there are gables and turrets and domes in plenty; there is, above all, the unspeakable miracle of all this having grown up from the bare veldt in fourteen years; but I can well understand that a man accustomed to associate his ideas of architecture with Edinburgh or Bath, or with Oxford or Cambridge, would scout the idea of the use of the term in Johannesburg's case. It is only building, he would say, and rather bad building. I confess to having been much shocked on my first introduction to the gold city. If London appears mean to a stranger on account of its endless common brick, what of Johannesburg and its corrugated iron? When I saw bricks used that I could break in two in my fingers; houses built in mud-mortar wholly innocent of lime, and the same red mud floated on for the internal plastering; roof-principals made of single half-battens; floor-joists one and a half inches thick, placed eighteen inches apart, that ought to my ideas to have been three inches thick and only twelve inches apart; when I saw wretched milled doors and windows used in even the better class of dwellings; the invariable varnished matchboard ceilings, three-eighths of an inch thick; the corrugated-iron roofs; the coarse mouldings of painted plaster imitating stone—when I saw all these abominations and learned that they were the best to be got, and that I should have to use them too, I felt tempted to seek some other field of labour where there might be less gold, but more to buy with it.

But it must be conceded that all human effort should be judged in conjunction with the difficulties it has to overcome, and the conditions under which it is made. When our work in the Transvaal is judged by such a liberal standard as that, I think it will be found to show no such despicable qualities after all. There are many things which go to make the conditions of building different from those at home, and I shall briefly enumerate them. They are all more or less what might be expected in a country comparatively undeveloped.

First of all, I would instance the state of political unrest. No one who has not lived there can fully appreciate the haunting consciousness of hostility on the part of one's rulers that seemed always looming in the background of life. Besides acting as a drag on all enterprise, this kept the popular mind from associating ideas of home with the country of its adoption. Though few in these later days could hope to make fortunes, or even moderate competencies, still fewer cared to face the idea of having to spend their lives in the country. Nearly everyone had a longing to go home and to stay there; and had some vague hope, however ill-founded, of being able one day, sooner or later, to do so. Hence public spirit was almost entirely absent. There was no real popular desire to improve the town, no demand for public buildings. There was no one, or hardly anyone, who cared to enrich the town with public gifts or to endow public institutions, except where a substantial *quid pro quo* from the public might be expected. The want of a free press and the suppression of freedom of speech tended also in this direction, and kept the ambitious from public life. The wealthy seldom cared to spend money on building houses, even for their own occupation, any better than just good enough to "rub along" in. There must have been many knowing ones who anticipated what has actually happened during the last few months, and the worse things that may happen yet. These, no doubt, are to-day congratulating themselves on their foresight. To have money in house property in the Transvaal was looked upon as such an insecure investment that men were seldom satisfied with a lower rate of interest than from 10 to 15 per cent., and could sometimes get very much more. I may seem to be encroaching on the



JOHANNESBURG, FROM THE NORTH-EAST.

province of such books as Mr. Percy Fitzpatrick's; but I only call attention to what had a direct adverse influence on architecture. Whenever buildings are erected with the object of getting so quick a return of the money spent as has been demanded by property owners in Johannesburg, the buildings themselves are bound to partake in a measure of the ephemeral nature of the objects of their erection, and one cannot expect to find in them such lasting monuments of human industry as to rank with architecture. A building intended to last for centuries in England would in the Transvaal be built for fifty years, one for fifty years in England, for ten in the Transvaal. A country whose commercial history is one of wild "booms" and acute panic "slumps" is hardly favourable to the production of any work of art.

Again, the cost of building has had a very grave effect on the quality of the work. The absence of timber of any value for building purposes meant the importation of every deal. All iron and steel work had to be imported from Europe and America at an increase in cost of over 100 per cent. All imported materials, in fact, may be said to have been more than doubled in cost by freights, duties, breakages, and especially by the exorbitant local railway rates. Ordinary bricks were dear and bad, and pressed bricks, the manufacture of which was a monopoly, were, though good, dearer still. Labour cost still more in proportion than materials. The skilled artisan, generally a British workman, was not always the best specimen of his class, and the absence of competition freed him of all anxiety to work his hardest. He must have a "boy" (Kaffir) or two to fetch and carry for him, and he must needs have his pound a day or more. Kaffir labour even, owing chiefly to the attitude of the Government with relation to natives, cost double what it did in any other part of South Africa. I give a few interesting comparisons between prices in the Transvaal and at home.

	London.	*Johannesburg.*
Carpenter	(say) 7*s.* 2*d.* per day	20*s.* per day
Bricklayer	,, ,,	22*s.* 6*d.* per day
Labourer	27*s.* 1*d.* per week	20*s.* (Kaffir) per week
9″ × 3″ deals	(say) $3\frac{1}{2}$*d.* per running foot	$7\frac{1}{2}$*d.* and 8*d.* per running foot
Stock bricks	40*s.* per 1,000	£3 to £5 per 1,000
Pressed bricks	50*s.* ,,	£6 to £7 ,,
Stone (plain ashlar, dressed ready for building)	4*s.* to 6*s.* 6*d.* per cubic foot	10*s.* per cubic foot

The effect of this was not so much to raise the price of building as to lower the quality of work, so that, though building cost in theory more than double what it did at home for the same class of work, it cost in fact much about the same. I mean that an office block in London might cost, say, a shilling a cubic foot, and an office block in Johannesburg also only a shilling; but the latter would be infinitely worse built, the scantlings of the timber be kept down to less than half, the walls be made thinner, and a poorer quality of work be employed throughout. The very beauty of the climate tends to make this possible, for the weather has no such destructive effect as at home. The soaking, wearing rains that prevail in England are never found in the Transvaal. The winter is mild, frost occurring only at night. What frost there is, moreover, is robbed of all its terrors to the builder by the fact that the winter is the dry season of the year.

Thus we have in the country's political unrest, in the cost of labour and materials, and in the mildness of the climate, three good causes of building operations having been conducted in an unsubstantial and temporary manner. A fourth obstacle to good architecture has been the want of culture on the part of the people. I do not wish to be misunderstood. I would cast no slur on our countrymen abroad and the immigrants from all parts of the world, of which the complex "Uitlander" population of the Transvaal has been composed. It is not to be expected that the standard of taste would be equal to that at home. A leisured, moneyed class has been entirely absent. The cultured professional class—except perhaps in the case of the engineering professions—must of necessity bear a lesser part in point of numbers and influence there than at home. The population has been drawn mainly from the busy commercial classes, whose opportunities for self-culture were necessarily less than in an old country where museums, books, lectures, and examples of the best works of all ages are easily accessible.

Hence the demand for good work in architecture, as in everything else (apart from mere workmanlike qualities), and the knowledge of wherein such good work consists, have been both at a minimum.

Further, it is impossible for those who have not lived in a town like Johannesburg to conceive how the want of modern sanitary arrangements tends to hamper architects. Johannesburg has no drains! The necessity, which the "bucket system" imposes, of providing that loathsome "sanitary" (so-called) entrance to every building on its street-front, is only a minor restriction. The want of drains has prevented the "flat" system from being attempted; it has ruled with unbending sway over the planning of dwellings, and tended incalculably to check the growth, not merely of luxury, but of ordinary comfort. It has stultified the best efforts of architects to bring dwellings, clubs, hotels, and every class of buildings alike up to modern ideas.

But all these things are of the past. The country has come to a crisis which must mark either a new birth or a severe check to all forms of activity. To attempt a forecast of the future would be to enter a field of political controversy already somewhat embittered, and would be out of place in the pages of the JOURNAL of the Royal Institute. There appear to be only two classes of prophets. To the one this war appears as the sin of the century, to be surely attended by condign punishment in the paralysis of South African progress for years to come, by embarrassments financial and political. England, it is said, has always blundered in South Africa, and is only blundering again. To the other class it seems calculated to remove all that stood in the way of the country's development, and sure to be followed promptly by a "boom." England may have blundered in the past, but we have an incentive to avoid a mistake to-day in the intrinsic value of South Africa that was never apparent before—and we are a practical people. A few months should show which of the two is right. If it should prove to be the prophets of the latter class (leaving out of account a possible "boom" as tending to do more harm than good), and if a settlement favourable to prosperity follows the war, then the way will surely have been paved for the removal of most, if not all, of these adverse conditions. Cost will be gradually reduced to something approaching the general scale of civilised countries. Increased security will warrant the increased spending of money on a more substantial class of building, and culture will follow in the wake of peace and security. Already schemes of drainage have been mooted (from all of which, by the way, in the particular forms proposed, may Johannesburg's lucky star protect it!)

But, given a return of prosperity to South Africa, and a final settlement of the unrest that has characterised it hitherto, then the future of architecture, it seems to me, will depend on this question: Is the country such that rich and cultured people will care to make their homes in it? Indeed, I think it is. The climate is unsurpassed by any in the whole world. There is every attraction in the form of natural beauty—rich, rolling, pastoral landscape, the grandeur of mountain scenery, and the sun and clear skies over all. The country is capable, when developed, of supporting a vast population. Its soil is rich, and water is easily got in any quantity by the expenditure of a little capital. Minerals are abundant, from gold down to the baser metals, from diamonds to coal. The surface of the land has been as yet little more than scratched. Taking South Africa as a whole—and the destiny of the Transvaal is inseparable from that of the rest of the sub-continent —there seems nothing in the country itself to hinder its becoming in time as great and populous and prosperous as the United States of America, and the eyes of the present generation from seeing an unmistakable earnest of such a consummation. There is no room for doubt that the future will bring great changes. It may be the near or the far-distant future; this may or may not be the final war for South Africa, and may or may not be the means of fusing the conflicting races and elements. But the fusion is bound to come. Then there will be steady immigration from without, and the steady increase of population from within. New industries will spring up, new cities, new railways, new seaports along the coast. Whether the gold output will last for a century and a half, or give out within fifty years, can be but a small consideration in the ultimate destiny of the country. Its coal-fields are enormous, its copper plentiful; in fact, there is hardly a branch of human industry that the development of the country seems unlikely to foster.

In particular the hopes for architecture should be bright in so far as the country's natural aptitudes are concerned. There are excellent building materials, or the elements necessary for their manufacture, except timber only. There is abundant clay for making bricks, and capital building stone; lime is plentiful, and South African gypsum is superior to that of the home markets. It will probably be found that the climate will have led to individual architectural treatments of great interest and merit. Some hints of this are already seen in the prevalence of the projecting eaves, in verandahs, colonnades, and such sun-protecting features as the stoep, so indispensable to every dwelling-house. The Italian brightness should encourage the free use of colour in external work, and the open-air life of the people, which has already made its mark on the planning of houses, should, with the better paving of the streets and the consequent diminution of the dust nuisance, continue to do so to an increasing extent.

And now to pass on from the prospects of architecture to those of architects. There are, no doubt, many of the younger members of our profession who would be eager for any data that might help them to judge of what inducements South Africa presents as a possible field for their own efforts. A consciousness of this makes me shrink from saying anything to raise false hopes. I cannot say: "Go out when the war is over and you will certainly never regret it." On the contrary, uncertainty has always been a leading characteristic of South African ventures. Again, speaking of Johannesburg during the past three years, the profession has there been much more overcrowded than even at home. Also the rush that might be expected to bring fresh prosperity would surely bear with it a fresh batch of architects. When I add that influence there is even more necessary than at home, and that competitions are even more unsatisfactory, I shall have said enough to justify the advice that, in the event of a favourable settlement to the present difficulties, if a young man decide to try his fortune as an architect in South Africa, he should only do so after mature consideration. But if he has a taste for novelty, is not above taking off his own quantities nor taking off his coat, figuratively speaking; if he can turn his hand to anything, whether it be so closely connected with his own profession as carrying out a building contract, or even, in the event of his failing to obtain clients, making shift with whatever calling he sees an opening in or drifts into; above all, if he have influence, he may take out his passage with little misgiving.

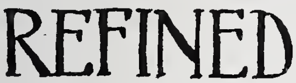
ALPHABETS AND PRINTING.

By H. C. D. Chorlton.

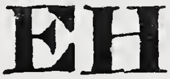
Read before the Manchester Society of Architects, 14th December 1899.

To trace the evolution of our alphabet from the earliest possible records and through historic times is of great interest and use, but I purpose rather to treat of the arbitrary forms as we now have them, more particularly dealing with those styles of most utility, and to give you my own ideas respecting their proportions, spacing, and arrangement. The formation of good letters, though seemingly a simple matter, is evidently difficult, seeing that so many hundreds, almost thousands, of variations have been made, yet so few continue to hold the approval of cultivated judgment.

I find that among those who have been observant of natural forms, and particularly among those who have carefully drawn and studied them, that there is a general unanimity with regard to the proportion of thick and thin parts and the avoidance of mechanical regularity. From the appearances of Nature, according to our individuality, we absorb certain ideas of proportions, such as from a vigorous oak-tree with its strong trunk and boughs, or a graceful birch-tree with its tapering, radiating, and delicately curving branches. A stout piece of humanity has proportionately stout limbs, as a graceful woman has proportionately graceful limbs. Such observations have their beneficial effect on our appreciation of conventional work, and even in our choice of letters.

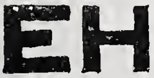


Elongated refined forms.

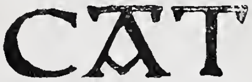


Want of proportion in thick and thin parts.

We ought not only to design well-formed letters, but they should also be suitable for the instrument and material with which they are to be worked. The conditions not only facilitate the work but they give character also. The old Roman letters were cut in hard substances and are consequently angular. The reed pen and stylus made scratchy, monotonous lines. The quill pen, with its delightful flexibility and the different angles at which it could be cut, produced the beautifully-varied forms of the old illustrated MSS., the forerunners of the printer's lower-case forms.

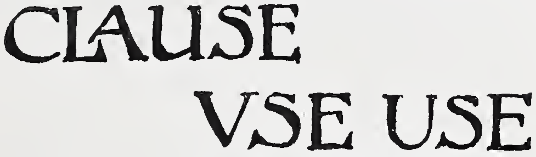


Want of variety.



Proportion of thick and thin.

Legibility is, of course, the first consideration, and we can secure this by the avoidance of oddities and jerky points and twists of the serifs, and we can get beauty in simple purity of line.

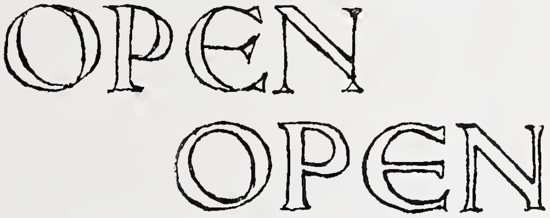


The first U, which was formerly used as a capital, is preferable. The second V is useful as an angular form among curved letters. The last U is the least desirable form.

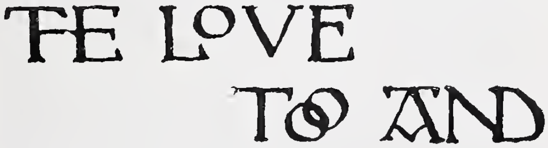
In Roman letters I have always a liking for a generous form not too condensed nor too extended, and for variety in extension; every letter should not fill a square, which would only give a mechanical monotony.

Curved letters should approach a circle or even go beyond it, as in O. Albrecht Dürer had a good system for these proportions and for forming the serifs.

If it is desired to use a light letter, I prefer the employment of the double line throughout.



For convenience of space letters may be linked together, but this should be done judiciously so as to avoid losing legibility or cutting the word into a monogram. Linking should be avoided in words beginning with a capital.



There is some obscurity respecting the origin of a very beautiful form of Irish MSS. in use from the sixth to the ninth century, of which the Book of Kells, now in the Library of Trinity College, Dublin, is the finest example. The capitals are of little use for modern requirements, but a careful study of the small letters could not fail to be beneficial, and might be made to form a basis for a good series for present use.

I come now to the question of printing. To my mind, both from a matter of clearness and good appearance, modern types are too thin, too condensed, too much spaced between the lines and between the words, and often too small. The result is a washed-out grey and mechanical appearance in the mass. The fifteenth-century printers did very much better.

The rectangular shape of the paper and the necessary lines of words force us in a general way into the acceptance of the panel form for the massing of type. I prefer that the panel may be retained as much as possible.

In a display page the division of words at the end of a line is sometimes awkward, but on some rare occasions I think it is permissible to sacrifice the customary syllabic division to the effect desired. It is only a question whether the artistic or the literary side shall rule, and I think there are occasions when ornate appearance shall be the first consideration and the idea of clear reading quite secondary. These occasions must of course be carefully chosen.

It is not any more difficult to set well-formed than ill-formed types, and cultivation will make good arrangement easy enough. Well-formed type, if well set, may look ornamental even without any added ornament.

Ordinarily we do not sufficiently consider the white paper. We should remember that when we are setting black we are putting it on white, and the proportions one to the other should be considered, and although we are using black ink, the result in appearance may go through grey to solid black.

I like to see the spaces between the words less than is at present customary, and to make them as regular as circumstances will allow; the early printers did this, and never had the objectionable "rivers" in their work. I like to see type set as solid as convenient reading will allow. Long lines are difficult to follow. I like the double columns, and they lend themselves very well to ornamented work.

Borders may be darker than the mass of the type or equal in weight; they rarely look well if they are lighter. We usually set them too far from the type.

Capitals are often the only means of giving relief or accent to a page. We seem to be afraid of using them large. For clearness of reading the Roman are preferable, for that is their strong side, as Gothic is of the lower case. Where clearness is not the great essential, either Roman or Gothic capitals may be used, and either may be ornamented. Always presuming that the run-on matter is in black, the capitals may also be in black or in colour. The weight of the capital should be in keeping with the lower-case. If it is in black it ought not to be so heavy as it may be if printed in colour, and may be bolder as the colour employed is lighter. If two colours are employed, we should beware of their mingling effect. The colours always seem brighter if used in simple mass or if relieved by a white line.

It is possible to ornament a capital and yet keep the shape of the letter clear, but I do not think that is always necessary. The types should come fairly close to the capitals. It is extremely difficult to ornament a capital with figures or animals. In a piece of display printing I like to keep the unity and to use as few styles of types and even as few sizes of the same type as possible.

Illustrations other than the purely utilitarian should ornament a page as well as be a means to the further comprehension of the subject. They should be in line, and the thickness of line employed should be in keeping with the weight of type. Half-tone photographic reproductions are out of all sympathy with type.

Most commercial work, dictionaries, medical and scientific works, should be entirely free from ornament, so also should works having illustrations of a purely utilitarian character, as any ornament would be sure to be out of keeping with them.

When arranging an ornamental page I always get the lettering right first. If type is to be used it is set first, or if the whole is to be drawn the lettering is decided first, and then the ornament is made in keeping or agreement with it. It is always difficult to make a pen line agree with type. To be simple in design requires more knowledge, more thought, greater selection, and a higher sense of ornament, than to be elaborate. With such a frank instrument as a pen, it is more difficult to draw a thick than a thin line.

A drawing for photographic reproduction should be very slightly, if any, larger than the intended size, as much reduction destroys the quality of penmanship, and we should always bear in mind that in much reduction heavy black parts still remain black while the lines may be reduced to scratchy fineness, thus producing an exaggerated difference between them.

As letterpress printing is a method of impressing characters by means of raised stamps, it should not have its peculiar quality taken away by hot-rolling the paper afterwards; it takes away the slightly varying surface caused by the impress, and makes the matter look flat on the surface—a result so insipid in lithography.

When looking at a book the two pages are seen together and should bear a relation to each other: the margin in the binding should be narrowest, the head margin larger, the fore margin larger still, and the tail largest of all—this for convenience of handling as well as to avoid the appearance of the pages flying away from each other.

9, Conduit Street, London, W., *13th Jan.* 1900.

CHRONICLE.

Special Election to Fellowship.

At a meeting of the Council on Monday, 8th January, Mr. William Bell, President of the York Architectural Society, was elected a Fellow of the Royal Institute under the proviso of By-law 9.

Questions connected with the Position of Associates.

At the Business Meeting last Monday, after the Election of Members, the President, referring to the last item on the Notice Paper issued to members—viz. "To discuss various questions connected with the position of Associates"—said that some time ago a deputation of Associates had laid before the Council certain proposals respecting alterations in the constitution of the Council, and one or two other matters. The Council therefore thought it desirable to have the questions discussed amongst the Associates and members generally, so as to get the views of the general body as far as possible. The Council were anxious to meet the Associates so far as they could in regard to all reasonable proposals, and, if sufficient reason were shown, to bring about such alterations of the By-laws as were required to carry them into effect. Still, however much the Council desired to meet the views of Associates in the matter, the views of Fellows must also have full consideration. The deputation he had referred to acted on behalf of an Associates' Committee. But the Council were quite in ignorance as to the number of Associates this committee represented—whether they expressed the views of the whole body of the Associates or only a certain number of them. The Council, the President continued, would be very pleased indeed to hear that evening anything that might be put forward in connection with the points raised by the Associates' Committee, or on any other matters in which the Associates were interested.

The following is an abstract of the discussion which thereupon ensued:

Mr. H. V. LANCHESTER [*A.*] said that he had been in touch with the feelings of many of the other Associates, and that there had never been anything beyond an expression of opinion on their part as regards the representation of the Associates on the Institute Council. The Council when approached on the matter had met the views of these Associates in a very friendly spirit, and had, he believed, come themselves to the conclusion that there was nothing unreasonable in their proposals—for instance, that certain modifications should be made in the election procedure, such as the omission of asterisks against names of existing members of Council in the annual voting papers. Also that the By-laws should be altered so as to allow of the addition of two further Associate members to the Governing Body. That addition, though not all that some of the Associates hoped for, would show that they were being sympathetically met by some of the Fellows, who, they had been afraid, were not so much in sympathy with them as they now appeared to be. He thought the proposed changes, if brought about, would meet with approval, and conduce to the satisfactory working of the whole body of the Institute, Fellows and Associates alike.

Mr. SYDNEY B. BEALE [*A.*] said that when he saw the announcement on the Notice Paper he wondered what they were expected to discuss that evening. The deputation which waited upon the Council some months back had put fairly exhaustively before them many of the points that the Committee of Associates thought deserving of attention, and he was under the impression that those points had been considered, and possibly that the Council had come to some conclusion upon them; and that they would hear that evening what the Council proposed to do in the matter. But instead of that they were met with a request to say something more—"to discuss various questions connected with the position of Associates." That was an exceedingly wide field, and he did not know whether they were expected to discuss the very points which they had raised before, or whether they could raise fresh ones. [The PRESIDENT: Quite so.] He hoped that before the Meeting concluded, the Council would give them some idea of what their own views were upon the representations already made to them. There was only one feature about the position of an Associate at the present time—viz. that he had the power (perhaps an unpleasant one) of passing on occasions uncomplimentary resolutions about the action of the Council. They fully realised that that was an important position to hold, and one they would not like to see lost. Still, great as that privilege was, it was not a very soul-satisfying one. They wished for something a little more practical. It was not known to the majority of members what were the main points that were pressed upon the Council by the deputation to the Council. The President had mentioned one—viz. the reconstruction of the Council, or some alterations in its constitution. That was an exceedingly important point, though the Associates had not put it in the forefront. The Associates, he thought, were looking for a larger share of interest in the doings of the Institute; they wanted a larger representation on the Council; they had suggested a number, and he had heard it mooted that they were likely to get a greater representation, though short of the number they asked for. Discussing the question on broader grounds and in a general way, there was certainly one thing that might be brought forward for the Council's consideration. The Institute, he thought, might do something for Associates to increase their interest in the ordinary meetings of the Institute. Associates should be encouraged to feel that they were welcome, and that they would be listened to when they had a question to ask or anything to propound. The Institute did not seem to realise that within the last ten years it had drawn within its ranks a large body of the older members of the Architectural Association. It could not be honestly said that the Institute were catering for these men. Speaking for himself, he felt that the Architectural Association was somewhat too young for him, and the Institute somewhat too old. He should like to have Papers read which he could get up and discuss and ask questions about. Many of the Papers he had heard read at Meetings, or that he had read in the JOURNAL, were most excellent Papers, but the younger men certainly did not take the interest in them that they should. It was quite clear when a young man rose to his feet that he was possibly displacing an older man, and it was not an uncommon occurrence for two or three gentlemen to rise at once, and naturally the younger man gave place to his elders. That had a depressing effect on the young man, and he did not rise again in a hurry. It might be a matter for the Council's consideration whether they could not set apart one or two evenings during the session to be devoted to Associates—that an Associate might read a Paper which Associates should have an opportunity of discussing. Fellows, of course, would not be barred; but it would be understood that it was an Associates' Meeting, and the Associates would feel that they had an opportunity of taking part in the discussion. To get this might mean a big change, and its working would require a good deal of consideration. His next point was that they might have an Associates' committee. Such a committee would be exceedingly useful in getting the views and wishes of the Associates and looking after their welfare generally. He did not know how the committee might be constituted, but such a committee already existed upon its own energy and its own finances outside the Institute, and it had not been altogether incapable of work in the past. Such a committee should be incorporated as an official institution in the Institute itself. That led to the question of increased representation of the Associates upon the Council. The committee would arrange the ordinary meetings for Associates, and to get them carried out they must have proper representation on the Council. That, he understood, was to be largely met by an increase of the number of Associate-members of Council. He must express their thanks, so far as he could speak for the Associates, for this extension of a privilege which he was sure would be greatly appreciated. Their representation ought to be enlarged, and they ought to be given more scope; and if the Papers could be made such that Associates could take a larger interest in them, it would be for the benefit of the Institute as a whole. He thanked Mr. Lanchester for the work that he had done on the Council. Evidently it was his energy, coupled with that of his fellow Associate-member, that had brought about this meeting, and he and his colleague deserved the thanks of all their brother Associates for the work they had done for them.

MR. C. H. BRODIE [*A.*] said that he also had come to the meeting expecting that they would receive an exposition of what the Council were prepared to do to meet the views of Associates, with which they were already well acquainted. Letters had been written in the JOURNAL and elsewhere as to what was desired, not only by the Associates, but by a large number of Fellows; and a deputation from the Associates had placed very definitely before the Council a series of reforms which they considered necessary for the progress of the Institute. One of the points he had himself particularly alluded to in a letter which appeared in the JOURNAL some time ago,* viz. that there was no provision in the Charter and By-laws for the compulsory retirement of members of the Council, and he gave some figures which appeared to him very striking and somewhat disconcerting. When one finds that men have been on the Council twenty-four years, one credits them with having done the best they can for the Institute; but one also thinks that it would be wise on their part, and useful for the Institute, if they would now retire and make way for others who have, perhaps, better health and more vigour and strength. Until something of that kind was done, the progress of the Institute could not be as rapid as they could wish. In the Architectural Association a man was bound to retire from the Committee after a certain period of time, and without doubt there was no representative body of any profession which went along with such go and did such exceedingly good and splendid work as the Architectural Association of London. He had no hesitation in saying that the unexampled vigour of that society was due entirely to the fact that there was a constant influx of young blood into the Governing Body; and if the Institute, among its other suggested reforms, made provision for the compulsory retirement of members of the Council after a certain number of years' service, that would go largely to make the Institute more what they wished it to be. The President had foreshadowed that it was proposed to add a certain number of names to what was called the House List. That was perfectly useless. It was only confusing the issue; the result would be that the older men, who were naturally the best known, would still be voted for, and the other votes would be split among a larger number of candidates, with the result that even less fresh blood than at present would be infused into the Council. If that proposal were ever brought before the Institute formally, he, for one, should strenuously oppose it. It would not be an advance but a retrograde step.

MR. H. HARDWICKE LANGSTON [*A.*] suggested that it would assist the discussion if some information were given the Meeting as to the representations which had been referred to as having been made to the Council by a Committee of Associates.

THE PRESIDENT said he would read them. They were as follows:—

(1) That the number of Associate-members on the Council be increased by eight.

(2) That a member of the Council having served for four consecutive years on the Council should not be eligible for nomination until after the space of one year.

(3) That the Presidents of Allied Societies who are Associates should be eligible to serve on the Council as representatives of their Societies.

(4) That the sphere of influence of the Institute be extended in various ways. That Annual Congresses be held in provincial centres, and that more encouragement be given to the Allied Societies, such as the reading of Papers before them by London members.

(5) That the Council revise their procedure with regard to the work of Standing Committees.

The Council, continued the President, had considered these representations at the end of last Session, and had passed resolutions upon them; but since then the Associates' Committee had raised the question again. There was some misunderstanding as to what was meant by the first clause, which might be understood to mean that the Council should remain of the same number, but that eight members should be Associates. It was now stated, however, that eight Associate-members should be added to the present number of the Council. That, however, was a matter which they need not discuss at that meeting. With regard to Clause 2, that had already been under the consideration of the Council. On Clause 3 the Council had taken no action. With regard to the Institute's sphere of influence being extended, that had been considered by the Council many times, and long before the Associates had approached them on the matter. They would probably have a Congress during the present year. As to the Standing Committees, the feeling of the Council had been for some time that the Associates should be more largely connected with them, and now it happened that on some of the Standing Committees there was a comparatively large proportion of Associates and no members of the Council; consequently the Associates had lately asked that more members of the Council should join the Committees. The sole object of the Council in appointing so many Associates on the Standing Committees was to give them a larger share in the work of the Institute. Those were the points that had been pressed on the Council, who were now anxious to hear the final ideas of Associates before bringing any definite proposals before the General Body.

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* JOURNAL, vol. v. [7th May 1898], p. 355.

Mr. R. J. ANGEL [*A.*] (late of Walsall) said that till lately he was a member of the Liverpool Architectural Society, and on the Council of that body. The question under discussion that evening was no new one with the Liverpool Society—it was under discussion there in the years 1893 and 1894. Up to that time the Council had been almost entirely composed of a certain number of very venerable gentlemen, who inspired some awe and fear in the Associates, and they had things pretty much their own way. At length the Associates waited on the President and ventilated their grievances, one of which was their inadequate representation on the Council. They were courteously listened to, and in the end were granted a larger representation. One result was that the meetings suddenly sprang into life and drew the younger blood to take part in them. Ethereal subjects were dropped, and everyday matters, such as formed part of their usual work, came up for discussion. Though they had excellent Papers of their kind published in the Institute Journal, he confessed they were generally beyond his grasp, and he seldom ever read one to the end. It had often struck him that if only the Institute were managed something on the same lines as the Liverpool Society or the Birmingham Association (for he was familiar with both), what a thing of life and beauty the Journal would be in the eyes of their provincial brethren! Therefore, if the representation of the Institute had what was popularly termed young blood in it, and if the subjects under discussion were such as one needs in the various branches of the profession, then a greater number of Associates would attend the meetings, and the usefulness of the Institute would be extended. Another society to which he belonged—the Municipal and County Engineers—had extended its means of usefulness by holding meetings in different parts of the provinces, and discussing various subjects. There were people in out-of-the-way places who could not get to the provincial centres, and who did not belong to the Institute because they could not attend its meetings; but if conferences were held in various parts of the country they would draw members to the different centres who would take an active part in the conferences.

Mr. WILLIAM WOODWARD [*A.*] said that the Associates who had spoken appeared to somewhat misapprehend what should be the position of an Associate of the Institute. They had rather fallen back upon the position held, and rightly held, by the Architectural Association. The Architectural Association provided them with all the material for taking part in discussions, and for getting rid of that nervousness which distinguished those unaccustomed to public speaking. But he must confess that he had never yet noticed any inclination on the part of the Chairman or any member of the Council to prevent or to interfere or to intimidate or to import nervousness into any speaker, whether an Associate or whether a Fellow of the Institute. In that respect he disagreed with Mr. Beale. He (the speaker) was a pretty regular attendant at the meetings, and he had always found that if an Associate had the courage or the inclination to say what he had to say on any subject, or to ask any question on the Papers, he always had a full hearing. The question whether a man spoke or not had nothing whatever to do with the subject of the Papers. The Papers brought before the Institute should be on practical subjects, subjects of interest not only to the younger but to the older members. If an Associate was too young to comprehend or to grasp the purport of a Paper, he could get all he wanted in the Architectural Association. At the Surveyors' Institution opportunities were afforded the junior members to read papers, which were discussed by the junior members, and by Fellows as well if they desired. Something of that kind, no doubt, was what Mr. Beale desired, and it was an idea which might very well be considered by the Council. It appeared to him that only one tangible point had been put forward by the Associates that evening that the Council could grasp—viz. fuller representation of the Associates on the Council. The origin of the Transvaal War was due to the fact that fair representation on the Legislature of the Transvaal was refused to the Uitlanders, and the statesmen of this country very rightly saw this and expressed it. Give the Uitlanders a fair representation and leave the rest to themselves; they will have got the opportunity then to air and remedy their own grievances. So the Associates would have an opportunity then to raise the Institute to the altitude which Mr. Beale desired for it. For himself he had no fault to find with his position as an Associate. He had got all he desired to get as an Associate. The only practical step the Council could take to meet the views of Associates was to give them as full and fair representation on the Council as they possibly could. In his opinion the Associates should be represented by at least one-third of the total number on the Council. They would thus get new blood on the Governing Body. There could be no objection to men who had passed twenty-four years—and well passed twenty-four years—in doing their best for the Institute being retired for the benefit of the general body.

Mr. E. W. HUDSON [*A.*] said that as one of the older Associates he was in accord with Mr. Woodward in being satisfied in general with his position. He said it without any disrespect to the Architectural Association, but he scarcely thought it came within the needs of the Institute to emulate or to follow the practices of the junior Institution. The Architectural Association was engaged in an educational work which it was quite unnecessary for the Institute to undertake. With regard to the question of a larger representation of the Associates upon the Council, he could not think that it would be an unwise thing to accord it; and even in the interests of the older members, that they should, after honourable service, be relieved of some of the work upon the Council, which, as years went on, must claim a considerable portion of their time. Analogies were not always exactly applicable, and in regard to that instanced by Mr. Woodward he would point out that if the Associates claimed to be in the position of the Uitlanders, there was just one important difference, that they did not pay the great bulk of the fees to the Institute; it was just the other way; the Fellows paid the larger amount, and therefore fairly claimed a larger share in the representation. If they paid anything like the same proportion—as unhappily had been the case with the Uitlanders in South Africa—then they would have a very strong ground of objection to the present organisation of the Institute. He was not a member of the Committee that had been referred to, and therefore spoke freely when he said that he hoped the result of the discussion that evening would be in every way a satisfactory one.

Mr. EDW. A. GRUNING, *Vice-President*, said he had been a member of the Council with intervals since 1873, and perhaps the time had come when he should go; but still he felt competent of doing useful work [The PRESIDENT: Most useful work], and severance from the Council of the Institute would be a matter of very great pain to him. Still, if the rule had come in force he would have at once retired, and served the Institute in a different capacity. There were, he thought, one or two misapprehensions which it would be better to clear up. There seemed to be some sort of idea that there was antagonism between the Council and Fellows of the Institute and the Associates. Such was by no means the case. The Council and Fellows were in absolute harmony with the Associates, and wished nothing more than the advancement of their interests and that their class should be properly represented. One could not help thinking how little interest the great body of Associates took in these proceedings when that evening, with a full quorum of Fellows in attendance, they had to wait a quarter of an hour before sufficient Associates were present to enable them to open the meeting. They had heard a good deal about an Associates' Committee, but the Council and Fellows generally were quite in the dark as to who or what the Associates' Committee were, by whom they were elected, and whom they represented. Did they represent the whole body of Associates, or only a part; and if so, what part? Of that they were in absolute ignorance. On the other points that had come before the Council he had very little to say. They were all aware of the difficulty as to the representation of Associates on the Council, and were agreed that the number of Associate-members should be increased. As regarded the compulsory retirement of members of the Council, that was formerly the rule; but it worked so badly that in 1877 it was abolished. The fact that after three, four, or five years a member of the Council who had done good and useful work was compelled to retire was found to be most detrimental to the working of the Institute; and it led to another thing which perhaps was not foreseen: that a man who was forced to retire from the Council was very chary of putting himself forward for re-election; and the result was that the representation of the body on the Council fell into the hands of men who were hardly qualified by their position or professional knowledge to represent so influential a body. That the Council should be, so to speak, leavened by men who have had long experience of the affairs of the Institute was indeed almost a necessity, if the work was to be properly done. A man who came on the Council and remained there for two or three years had only just time to learn the business and what was going on; and it was bad for the Institute that they should then lose the benefit of his experience. Therefore he believed the general body of the Council, and he hoped a great many of the members, were against compulsory retirement. He wished to disabuse the general body of the idea that what they called the infusion of fresh blood—which meant the turning out of men who had done good work and were still able to do good work—would be of any advantage to the Institute. He did not often speak in that room, but he had considered this matter very deeply, and he wished to bring his views before the meeting.

Mr. SYDNEY BEALE [*A.*] felt that some explanation was due from him as to his remarks on the Papers read in that room, and the little part the Associates took in their discussion. Mr. Woodward appeared to have misunderstood him. Last session there had been an exceedingly interesting and engaging paper by Mr. Dickie upon the excavations at the Pool of Siloam, and there was some very valuable information brought out in that paper, not altogether on matters architectural, and he felt that that was a subject on which he should like to have had some enlightenment upon points he felt greatly interested in, and on which he should like to have said something. The Paper was a good one, and the discussion should have been valuable; but it was cut very short by a member rising and saying that he hoped to contribute something of interest in the way of discussion, and he would send it on by way of a communication to the next number of the Journal. That seemed to destroy all interest in the Paper from an Associate's point of view. Then they had some years ago another paper on the Excavations at Athens, which was read by Mr. Elsey Smith. These were Papers one could not get at the Architectural Association; the members of that body had not had the travel and experience, and such Papers could not be read there as they could at the Institute.

Mr. H. HARDWICKE LANGSTON [*A.*] thought that the remarks made by the member referred to in connection with Mr. Dickie's Paper would rather tend to encourage anyone whose nervousness rendered him reluctant to speak, because he would feel that, in spite of his inability to speak, he could still have his say by sending a communication to the Journal. He certainly had never found that the Council put any obstacle in the way of Associates expressing their views; on the contrary, they gave every opportunity for members to speak who knew anything on the subject, and if they did not do so that was their own fault. Upon the point of fuller representation of Associates upon the Council, he thought that Associates who had been members of the Institute for many years should not be precluded from serving on the Council if they showed themselves capable, and their fellow Associates thought they might be of use. He could not agree with Mr. Gruning as to the desirability of members remaining on the Council for such long periods. No doubt they were useful, and would continue to be useful if retained; but there were other members who must necessarily take those first steps that the old members of Council had taken, and it was only by making themselves acquainted with the business that the new men could serve the Institute in the way they wished. If new blood was not to be let in, who would represent the Institute when the old members died?

Mr. E. W. HUDSON [*A.*] said he should like to add a word with regard to the Journal. He had always felt that to that Journal they looked for the views of the most erudite and talented people who contributed the papers and articles which appeared there, and he never had any idea of going to it for ordinary discussions upon matters of mere professional practice, which were fully discussed in the professional journals. They could nowadays put their hand upon or read up the matters on which they desired information on almost every technical subject in which they were interested; and he for one should be very sorry to see the Journal altered in any way in that regard. With regard to Mr. Dickie's Paper, the communication from the member referred to which appeared in the Journal was made with the specific object of inducing others to express their opinions upon the portions of the buildings which had been brought to light in those excavations, and he happened to know that the writer was greatly disappointed that it did not draw further discussion. What was said on that occasion was with the object of bringing out the views of anyone who had anything to say on the matter, but would hesitate to prolong discussion to a late hour. The Journal was always open to members who wished to take part in discussions, or who sought further information on the subjects in question, and this should be borne in mind by members who were precluded from speaking owing to the lateness of the hour, or to diffidence in expressing their views verbally. He strongly advocated the keeping up in the Journal the high tone which characterised it.

Mr. WILLIAM WOODWARD [*A.*] said that on the question of the discussions it had been observed that instead of the Chairman, after the reading of the Paper, permitting anybody who chose to rise and speak, it had been the custom to name certain gentlemen who were supposed to be in the room to lead the discussion. In the case of some Papers where gentlemen were invited from the British Museum or some technical body to lead a discussion there was no doubt that was a very proper course to adopt. At the Surveyors' Institution the discussions were frequently adjourned to a future meeting, and sometimes to a meeting after that. That course might be followed with advantage by the Institute in cases where discussion had to close owing to a late hour. That perhaps would meet the views of Mr. Beale and others. It had the further advantage that in the interval those who had not been able to attend and hear the Paper and the first discussion would have the opportunity of reading the Paper and the discussion in the Journal, and would be prepared at the adjourned meeting with observations of value and interest.

The PRESIDENT, referring to Mr. Beale's remarks, said that it might sometimes be necessary for a man who had something important to say, when he had known nothing of the purport of the Paper that was to be read, to collect his thoughts and make up his mind what he had to say; and it would not have half the value if said at the time that it would have if he were given the opportunity of putting a well-considered communication into writing and sending it to the Journal. He thought Mr. Woodward's suggestion was a valuable one, and well worth consideration. With regard to Mr. Langston's remarks as to the better representation of the Associates, and younger blood coming into the Council, he did not know whether the Associates thought that all the men on the Council were elderly fossils. There were a good number on the Council who were distinctly young men and exceedingly energetic. More than that, the Associates had the election of each member of the Council in their own hands. Surely they did not suppose that the Fellows did not represent the Associates! On the contrary, the Fellows who were members of the Council represented the Associates just as much as the Associate-members did. They had the interests of the Associates at heart just as much as they had the interests of the Institute at large.

Mr. A. S. TAYLER [*A.*] said that the President had expressed some doubt as to who the Associates' Committee were. Were the Council in order in listening to their representations if they were in doubt as to who they were?

The PRESIDENT explained that the point was that there was a Committee which called itself an Associates' Committee, and the Council were ignorant as to whether they represented the whole body of Associates or only a certain number, and, if so, how many.

Mr. LEONARD STOKES [*F.*] asked to be permitted to say that, as a member of the Council, he understood perfectly well who the Associates' Committee were. They themselves told the Council that they did not claim to represent the whole of the Associates; that they were a body of 110—he believed that was the number—who had called themselves together on their own account for the purpose of discussing these questions. Then they elected a Committee which for want of a better name called itself an Associates' Committee, although they did not claim to represent the whole of the Associates. In fairness to them it should be stated that, unless his recollection was at fault, the deputation began by telling the Council who they were. With regard to the principle of compulsory retirement, he must say that he was a believer in it. He happened to be on the Council, but he had no ambition to remain on for 20 years. He thought he would be doing much better to retire after four years. If he was any good at all, after a year or two he might possibly be asked to stand again, and if he was no good then probably he would find his own level and be let alone.

The PRESIDENT said that after twenty years one had probably gained experience and discretion. Mr. Gruning, whose length of service had been referred to, was one of the most useful members of the Council. On many practical points the Council could not have a better opinion or a better adviser. He had known Mr. Gruning as a member of Council for a great many years, and he was perfectly satisfied of the truth of what he (the President) said.

Mr. LEONARD STOKES said he was sure Mr. Gruning would understand that it was not a personal matter at all, and he hoped Mr. Gruning would forgive him if he differed from him on the principle.

Mr. GRUNING thought everybody had a right to his own opinion, and one great merit of the Council was that the personal question never arose there at all, but they all worked together for what they believed to be the good of the Institute at large.

Mr. BRODIE said that the question of compulsory retirement was no personal question at all. But on the principle that there were just as good fish in the sea as ever were taken out of it, he thought there were just as good members of the Institute and just as useful and learned members outside the Council as there were in it. On the question of the Associates' Committee, at the time he knew who constituted it. He should have belonged to it only he had many other things to do at the time, but as an Associate, and taking a great interest in the work of the Institute, he saw a list of the members and was quite satisfied that it was a representative list of very able men.

The PRESIDENT, in conclusion, said that the Council were obliged to the meeting for the pleasant way in which the question had been discussed. It had given them a very fair idea of what the views of the Associates were. The matter would be considered by the Council at an early date, and their proposals be made known to the Institute.

Some Important Additions to the Library.

At the Business Meeting last Monday, the Hon. Secretary, Mr. Alex. Graham, at whose instance a number of the most recent acquisitions to the Library were laid upon the table for members' inspection, said that he took the opportunity at the first meeting of the year to draw attention to books recently purchased for or presented to the Institute Library. As members were aware, books were constantly coming in, and some time must elapse before they were printed in the Library catalogue. He therefore thought it desirable to call attention once, or perhaps twice, in the year to books then recently acquired, many of which would be found of great value. On the table were a large number of works, some of them specially deserving of notice. First, there were four volumes of the late Mr. Nesfield's very admirable drawings. If any member had an hour to spare he could not employ it better than by looking over those charming sketches by a very eminent man. Then there were the measured and other drawings, in three volumes, by the late Mr. R. Johnson—drawings of 1858 and 1860, many of which would compare favourably with similar work of the present day. Mr. Hodges' monograph on Hexham Abbey Church was well worth studying. Complete monographs of notable buildings in this country were scarce, and this volume was therefore the more welcome. Of foreign works he would draw attention to Ongania's splendid volumes on the Decorative Arts in Italy, and to Osvaldo's equally commendable work on the Architecture and Sculpture of the Renaissance in Venice. Amongst the donations, reference should be made to some volumes recently presented by Mr. Gordon Smith [*F.*]. A valuable copy of the 1601 edition of Pliny's *Natural History* deserved special notice. It was very complete. They had a copy of the edition of 1623 in the Library, but it was not complete, and a large number of pages were missing. Then there was a copy of Holinshed's

Chronicles, a very useful book to those who took an interest in topography. He was glad Mr. Gordon Smith had presented that book, because it filled up a gap in that section of the Library. A good copy of Stow's *Survey of London*, published in 1603, would also be useful. Amongst other benefactors was their Associate Mr. Andrew Oliver, who had presented a large number of books of a very useful kind, most of which had been put into the Loan Library wherever there were duplicates in the Reference Library. Amongst them were twenty volumes of a work that he believed was very scarce; it was called *Beauties of England and Wales*, one of those old-fashioned publications which one occasionally found in an old library; any who were interested in the old mansions as they existed many years ago in various parts of the country would find that kind of information in those volumes which the journalist of modern days liked to consult. Then he should like to call attention to two volumes on the mediæval remains in Cyprus. He was in that island some five years ago, and, like all travellers, was struck with the magnificent mediæval remains in the old-world city of Famagusta and in other parts of the island. M. Enlart, acting under the auspices of the Ministre d'Instruction et des Beaux-Arts, had produced two interesting volumes on the subject well deserving attention. The last book he would notice was by V. Scamozzi of Vicenza, part of a contemplated work entitled *Dell' architettura universale*, but containing little more than a treatise on the five orders. A special interest attached to this volume as it was in manuscript, and this copy, written in Venice, was dedicated to the Academy of the author's native town. The illustrations were excellent, and clearly drawn without shading. In conclusion, Mr. Graham proposed a Vote of Thanks to the gentlemen who had kindly contributed so many volumes to the Library. The Vote having been put to the Meeting was carried by acclamation.

The College of Masons.

Members of the Institute, as well as all students of architecture, will be glad to learn that this College is now established on a permanent basis. In the JOURNAL OF PROCEEDINGS 1886–87 will be found several interesting notes relating to the preliminary steps taken by Mr. Lawrence Harvey to form a Students' Class of Practical Masonry, and to the success of his labours at the City and Guilds of London Institute at Kensington. Since Mr. Harvey's return to Switzerland, some difficulty has been experienced in obtaining a suitable meeting-room. By the kindness of the controllers of the Architectural Museum this has now been overcome, and a room at the institution in Tufton Street has been allotted for the work of the College. The first meeting was held there last September, and augured well for the future of the undertaking. The College is self-supporting, the object being to continue the study of scientific masonry on the excellent lines laid down by Mr. Harvey, and to educate its members in the practical application of its various branches. Meetings are held every Tuesday evening in Tufton Street for lectures and demonstrations. The secretary, Mr. George H. Jones, whose present address is Gifford House, Roehampton, S.W., will be pleased to answer any inquiries either by letter or personally at the evening meetings. Members of the Institute and all students of architecture are invited to attend, and to give every encouragement to this good work.

Portrait of Professor Aitchison, R.A.

Sir Laurence Alma-Tadema, R.A., has kindly consented to paint a portrait for the Institute of Professor Aitchison, R.A., *Past President*. The terms on which Sir Laurence has accepted the commission are exceedingly generous. As an old member and friend of the Institute, and as an old friend of Professor Aitchison, Sir Laurence will name no definite sum, but in a kindly letter to the President has expressed his willingness to accept whatever amount may be subscribed towards the Portrait Fund.

Subscriptions should be forwarded to the Secretary by an early date.

The New Federal Capital of Australia.

The following letter has been received from Mr. W. L. Vernon [*F.*] of the Public Works Department, Sydney, N.S.W.:—

Sydney; 23rd November 1899.

DEAR SIR,—I am in receipt of your letter of 11th October with thanks.

As you have expressed the wish to have information sent you from time to time as to the steps being taken towards the building of the new Federal Capital, I shall be glad, as opportunity occurs, to do what I can to supply you with such information. At present, however, the matter is in a very preliminary condition, and has not passed out of the "political" into the "practical." I fear it will be many a long day before this occurs, for besides the difficulties and the delays arising from choosing a site with large numbers of contending interests in the Colony, there is the still greater difficulty of a consensus of views by all the Colonies concerned.

New South Wales will very naturally, as the Premier Colony, endeavour to obtain the capital within the commercial influence of the port of Sydney, while Victoria will do the same as regards Melbourne. A glance at the map will show that as the New South Wales border is less than two hundred miles from Melbourne and over three hundred miles from Sydney, a capital site might be within the borders of New South Wales, and yet altogether attached by all its commercial interests to the Victorian capital.

I think it very desirable that public opinion from outside should be obtained and brought to bear upon the question in due time as regards the architectural and scientific treatment of so novel an undertaking.

I have enclosed a few newspaper cuttings which practically show the commencement of the first steps towards the accomplishment of the idea.—I am, Dear Sir, yours faithfully,

The Secretary R.I.B.A. W. L. VERNON.

Perhaps the most interesting of these cuttings is the following official "Public Notice":—

PROPOSED SITES FOR THE FEDERAL CAPITAL.

Persons desirous of bringing under the notice of the Commissioner any area as a suitable site, to be ceded to the Commonwealth for the seat of Government, are invited to forward their suggestions in writing, addressed to the Registrar of the Land Appeal Court, Sydney, if possible, before 31st December proximo.

Such communications should afford as full and accurate information on the subjects hereunder set forth as can be obtained:—

I.—CLIMATIC CONDITIONS.

(a) Range and mean of temperature during each quarter of the year, beginning with January.
(b) Altitude above sea level, and mean altitude of the area as a whole.
(c) Rainfall.

II.—ACCESSIBILITY.

(a) By railway (existing or to be constructed).
(b) By road.
(c) By water.

The conditions under this head should deal with the approaches to any proposed site as from the several constituent States of the Commonwealth, and distances in miles from approximate centre of area to the capital cities of such States should be given.

III.—PHYSICAL CONDITIONS.

(a) Nature of soil.
(b) Water supply and catchment.
(c) The possession of, or proximity to, stone, timber, and other building material.
(d) Drainage.
(e) Other physical features.

IV.—OWNERSHIP AND VALUE.

(a) Area of alienated or private lands.
(b) Area of Crown lands (including church and school lands, reserves, &c.).
(c) Estimated value of private lands (unimproved).
(d) Estimated value of private lands (with existing improvements).

V.—MISCELLANEOUS CONDITIONS, ETC.

(a) Character of neighbouring country, having regard to—
1. Facilities for food supply.
2. Mineral products, especially coal.
3. Capacity to support a considerable population.
4. Conditions favourable to commercial and industrial development.

Upon the receipt of such suggestions, the Commissioner will, as soon as possible, appoint times and places for the holding of public inquiries, at which evidence will be taken, and due notice by letter will be given to persons who may intimate their wish to give evidence, as well as by advertisement in the local newspapers. Attention is invited to clause 125 of the Commonwealth Bill—

"125. The seat of Government of the Commonwealth shall be determined by the Parliament, and shall be within territory which shall have been granted to or acquired by the Commonwealth, and shall be vested in and belong to the Commonwealth, and if New South Wales be an original State shall be in that State, and be distant not less than one hundred miles from Sydney.

"Such territory shall contain an area of not less than one hundred square miles, and such portion thereof as shall consist of Crown lands shall be granted to the Commonwealth without any payment therefor."

The *Sydney Daily Telegraph* for 14th November 1899 gives an interesting account of an interview with Mr. Alexander Oliver, President of the Land Court, appointed by the Government as a special commissioner to report on the available sites in the colony of New South Wales which might be suitable for the Federal capital. Mr. Oliver had just returned from his first tour of inspection. The chosen site must fulfil various conditions. There must be a water supply for at least 40,000 inhabitants. The site must be of a sufficient altitude above the sea level, for the climate to be cool enough for the summer sessions of the Federal Parliament. "The next condition must be accessibility to the States constituent to the Commonwealth. Then the site chosen must have a country adjacent capable of providing a sufficient food supply. Another distinct advantage will be the provision in or near the site, of good stone, clay, and timber, which would render the work of building the capital much cheaper than if the material had to be carried hundreds of miles."

It will be interesting to follow the developments of the scheme, and the thanks of the Institute will be due to Mr. Vernon for enabling members to do so. There is something stimulating to the imagination in the architectural opportunities that will be afforded by the deliberate building on a barren site of the capital city of a continent.

McGill University, Montreal.

The annual report of the Governors, Principal, and Fellows of McGill University, Montreal, for the year 1898–99 has been sent to the Institute. It contains the following paragraph:—"The University is greatly indebted to the Royal Institute of British Architects, which, on its being represented that there was no complete set in Canada of the Institute publications, has generously presented the University Library, through the architectural department, with the volumes required, some twenty-five in all, dating from 1835 onwards."

The University possesses a chair of architecture, which is held by Mr. S. H. Capper, M.A. [*A.*]. A new degree of B.Sc. has been instituted, and at the close of the session three students took the degree in architecture, "being the first to graduate in this department."

The late William Wilkinson Wardell [*F.*]

One of the oldest members of the Institute has passed away in Mr. W. W. Wardell, of Sydney, N.S.W., whose death occurred in that city on the 19th November last. Mr. Wardell became an

Associate as long ago as 1843, and was elected to the class of Fellows in 1850. The following notice of his career has been kindly contributed by his son, Mr. Edward Stanfield Wardell, of the Royal Mint, Melbourne:—

William Wilkinson Wardell, born in London in 1823, was educated for the profession of a Civil Engineer, but a strong desire to be a sailor sent him to sea at an early age.

After a few years he returned to his first destination and entered the office of Mr. Morris, one of the surveyors to the then Commissioners of London Sewers, who was also engaged in general practice, and afterwards that of Mr. W. F. East, a London architect.

During the "Railway Mania" of 1843, and after, Mr. Wardell was largely engaged on surveys for projected lines, and at this time, when the attention of all England, or at least artistic England, was engrossed by what was called the "Gothic Revival," he made the acquaintance of Mr. A. W. Pugin, then a prominent leader in the movement, and soon caught the enthusiasm of his friend, devoting his spare moments to the steady sketching and measuring of the ancient buildings within reach of his railway surveys, the localities of which being constantly changing gave a very large field for such pursuits.

In 1846 he received his first commission for a small church on the Thames, and immediately after another for one of greater pretensions at Croom's Hill, Greenwich. From this time to 1858 he erected, besides other works, some thirty churches and other ecclesiastical buildings in England and Scotland.

In 1858 his health failed and he had to seek a more genial climate. Australia was suggested to him, and shortly after his arrival in Melbourne he accepted the appointment of Chief Architect to the Government, and in the year following succeeded the late Major-General (then Captain) Pasley, R.E., as Inspector-General of Public Works and Buildings.

While filling this appointment, which he held for nearly twenty years, he had the responsible charge of the design and execution of all the works—except railways and roads—undertaken by the Government, embracing an extensive and varied range of engineering and architectural practice. Among the public works carried out under his professional charge and direction in Victoria may be mentioned the Alfred Graving Dock at Williamstown, the Lighthouses at Gabo Island, Queenscliff, and Warnambool, the Lattice Girder Bridge over the Yarra to the Botanical Gardens, Government House, the Royal Mint, the Lunatic Asylums of Kew, Ararat, and Beechworth, the Preston Reservoir of Melbourne Water Supply, the Harbour works at Belfast, the commencement of the works to form an entrance from the sea to the Gipps Land Lakes, the improvement of the River Yarra and its Basin, wharves and jetties in Port Phillip and the coast harbours, the Melbourne Custom House, and many other works throughout the Colony.

In 1863 Mr. Wardell was Chairman of a Board appointed by the Government (of which Board the late Mr. Thomas Higinbotham, M.Inst.C.E., and Mr. R. W. Larritt, C.E., were members) to consider and advise as to the best means for preventing floods in the River Yarra and the low-lying lands of Melbourne. The Report of the Board recommended the removal of the old Princes Bridge and the construction of another with largely increased spans, and the formation of a canal direct from the city to the river's mouth, leaving the regimen of the river undisturbed, but providing wharf accommodation on the canal banks.

In 1875 Mr. Wardell was requested by the Government of West Australia to advise them on the subject of harbour works at Fremantle, and after inspection he furnished a report and estimate, but, as he was aware that the probable cost (over £800,000) was at that time beyond the means of the Colony, he suggested as an alternative scheme the construction of a railway from Perth to King George's Sound, a fine natural harbour, and the railway has been carried out.

Mr. Wardell's official career closed in 1878, when he and other heads of departments, amongst them Mr. Thomas Higinbotham, M.Inst.C.E., and Mr. George Gordon, M.Inst.C.E., the County Court Judges, Police Magistrates, and nearly all the higher officials were deprived of their offices by a *coup d'état* of the then government of Victoria, on a day known throughout the Colonies as "Black Wednesday." Since that time he had resided in Sydney, engaged in the private practice of his profession.

Among his works in Sydney may be mentioned the extensive wharves and warehouses known as the Grafton Wharf; St. Mary's Cathedral; St. John's College at the University; the Union Club House; the New South Wales Club House; the A.S.N. Co.'s warehouses and offices; the Union Bank, and the Citizens' Life Assurance Co.'s offices. He was in 1890 appointed a Royal Commissioner to enquire into and report on the execution of certain Defence Works in Sydney, Newcastle, and Botany; and in 1892 he was a member with Messrs. C. W. Darley and R. Hickson, M.M.Inst.C.E., to select a design for a swing bridge across Darling Harbour at Pyrmont; and was Chairman of the Board to advise on the disposal of the Parramatta sewage.

He was also the architect of St. Patrick's Cathedral in Melbourne, the English, Scottish, and Australian Bank, the town mansion of Sir W. Clarke, Bart., in that city; the Church of St. Ignatius, Richmond, and other works.

Mr. Wardell was elected an Associate of the Institution of Civil Engineers in 1857, and was transferred to the class of Members in 1869.

The late Duke of Westminster, K.G. [*Hon. Fellow*].

By the death of the Right Hon. Hugh Lupus Grosvenor, Duke of Westminster, K.G., the Institute has lost a member of its most distinguished class of Hon. Fellows, to which his Grace was elected in 1866.

The late Francis Thomas Dollman [*Retired Fellow*].

Mr. Francis T. Dollman, who died on the 26th ult., was elected an Associate in 1864, and a Fellow in 1895, and was shortly afterwards transferred to the Class of Retired Fellows. From 1863 to 1866 he was Librarian of the Institute. Mr. Edward G. Hayes [*A.*] has kindly sent the following notice of his career:—

Francis T. Dollman was born in 1812, and spent the first years of his professional career in the office of Augustus Pugin, his fellow-pupils being Talbot Bury, Benjamin Ferrey, and Joseph Nash, together with A. Welby Pugin and others. He then entered the office of George Basevi, whom he assisted for nearly twelve years.

After Basevi's death he commenced practice, and for nearly fifty years was actively engaged. Among his numerous works may be mentioned: Eye Church, Northamptonshire; St. Matthew's Church and Schools, Upper Clapton; St. Saviour's Church and Vicarage, Walthamstow; St. James', Clapton (Reredos); All Saints', Lower Clapton; All Souls' Church and Vicarage, Clapton Park, together with mission room and schools; St. Leonard's, Bromley-by-Bow; Holy Trinity, Twickenham (alterations); works at Edinburgh Castle; St. Mary's, Stanstead (alterations); St. Stephen's Church, Haggerston, and additions to St. Augustine's; All Saints', Stoke Newington, together with many private houses and other works.

Mr. Dollman was the author of several architectural works, including one on *Ancient Pulpits*, which was followed by *Ancient Domestic Architecture*, and by *A History of the Priory Church of St. Mary Overie, Southwark.* The drawings for the latter, which were made with the greatest care, are now in the national collection at the British Museum. He was throughout his career a zealous and enthusiastic lover of his art, and had only recently completed a careful and elaborate drawing of the "Five Sisters" at York, showing in full detail the beauty of the leadwork and colour in these famous windows.

Mr. Dollman possessed a most retentive memory, and during his long career, little short of a century, had accumulated a store of reminiscences and anecdotes which enlivened and enriched his conversation to an extent which only those who knew him intimately could appreciate.

The following extract from a letter expresses well the character and disposition of the man, and the regard and esteem in which he was held by all who had the privilege of his acquaintance: "By his departure from this life I have lost a very valuable friend. It was always a pleasure to see and converse with him about literature, men, and things; and one always learned something from his well-furnished mind. I shall think of him as an able architect, a complete gentleman, an excellent linguist, a well-read man, a warm-hearted friend, a splendid Churchman, and an exemplary Christian. R. I. P."

Mr. S. J. Nicholl [*A.*] writes:—

By the death of Francis Thomas Dollman I am poorer, for I have lost a friend. The obituary column of the Institute Journal is not, however, a record of friendships, and if I ask the favour of being allowed to add a few lines to the professional memoir drawn up by Mr. Hayes, it is because he was in himself an interesting personality; a strain which ran pretty well through the architectural history of the century.

A pupil of Augustus C. Pugin, he soon proved his skill as a draughtsman. On one occasion he was directed to make a study of the Church of St. Martin-in-the-Fields. In due course he submitted his effort, and was at once accused of having copied it from a print, and Pugin was only satisfied of the originality of the sketch by going with Dollman to the selected position and carefully comparing the structure with the delineation. Such conscientious supervision was well rewarded, and by it we can understand how so many able men were educated in the office at 105 Great Russell Street (now 106).

The plates in the *Examples of Gothic Architecture*, dated September 1833, from Glastonbury, evinced the skill and care of our friend, and place him well in honourable rivalry with his gifted fellow-pupils.

Mr. Hayes has enumerated his executed buildings, but it is in his publications as a draughtsman that he is best known to our profession. It is curious to note that when he was bringing out his *Pulpits*, he was persuaded that the similarity of his name to that of a publisher of Catholic prayer-books in Bond Street would damage the sale of his book; so he put a disclaimer in the preface—with repugnance, as he has told me, for loyal Anglican as he was, he had not studied and loved so well mediæval works without developing affection for the old Faith.

His *Ancient Domestick Architecture* has preserved for us records of a valuable series of structures, illustrated, as in the instance of the Hospital of St. Cross, by complete plans; but the work he most loved to speak of was that on the Church of St. Mary Overie, Southwark; the design of the nave he saved from oblivion by his careful delineations.

He was the last of a good old school. We may have laughed with him at his enthusiasm, planning but the other day a re-visit to Wells; but we who had the pleasure of his friendship will ever hold his memory in respect and affection.

The late Paul Sédille [*Hon. Corr. M., Paris*].

The sad news of the death of one of the most distinguished Honorary Corresponding Members of the Institute has been announced in the following letter from Monsieur Charles Lucas [*Hon. Corr. M.*] :—

Paris, le 6 janvier, 1900.

A Monsieur W. J. Locke, Secrétaire de l'Institut royal des Architectes britanniques.

Monsieur le Secrétaire et cher Collegue, C'est avec un grand serrement de cœur que, sachant que l'Institut royal des Architectes britanniques tient séance lundi prochain 8 janvier, je crois devoir vous annoncer, en même temps que je l'apprends moi-même, la mort d'un de ses plus distingués membres honoraires et correspondants français, M. Paul Sédille, que notre Institut royal avait appelé à lui dès 1886.

Les discours qui seront prononcés aux obsèques de cet architecte éminent et les notices qui seront publiées dans les annales des Sociétés dont il faisait partie, et à chacune desquelles il apportait un sentiment d'art affiné, et faisant place égale au métier de l'artisan et à l'inspiration de l'artiste, tous ces éloges, que l'on peut déclarer par avance mérités, diront quelle nature d'élite était celle de notre cher et honoré collègue ; ils s'étendront surtout sur les justes honneurs qui avaient récompensé ses nombreuses œuvres, Magasins du Printemps, Basilique de Jeanne d'Arc, à Domrémy, transformation du théâtre du Palais Royal, Porte des Beaux-Arts à l'Exposition Universelle de Paris en 1878, Monument Schneider, au Creuzot, Vase offert au tzar Nicolas II. par la ville de Paris en 1897, et Châteaux, Hôtels, Villas, Maisons à loyer ; mais ce sont particulièrement ces dernières œuvres, celles-là d'une note toute originale, comme recherche d'art et comme ingéniosité de décoration, qu'il faudrait mettre en première ligne et qui lui assureront en France une place à part parmi les maîtres de l'architecture privée de la fin du dix-neuvième siècle.

Là, vraiment, dans ce domaine du *home* riche et élégant, toujours distingué quoique familial, il fut un grand artiste, et qui ne connaît l'hôtel du boulevard Malesherbes où il riait si heureux au milieu des siens, la villa de Boiron où il passait l'automne et le charmant pavillon qu'il avait élevé à Chatenay pour un des jeunes ménages l'entourant, ne connaît qu'à demi la nature de son talent si souple et si complet.

En outre, un des grands mérites de M. Paul Sédille, et non le moindre pour un Français, était de s'être intéressé à l'Architecture des nations étrangères, d'avoir senti qu'il y avait autre chose que l'Architecture grecque, romaine, italienne ou française que l'on enseigne à l'Ecole des Beaux-Arts de Paris, et que l'Angleterre et l'Allemagne, les anciens Pays-Bas et l'Espagne, peuvent fournir, pour les édifices publics comme pour les habitations privées, d'heureuses sources d'inspirations variées.

Mais je voulais seulement aujourd'hui vous apprendre la mort d'un confrère, d'un collègue et d'un ami, que certainement nos honorés confrères anglais regretteront avec moi.

Croyez-moi, Monsieur le Secrétaire et cher Collègue, votre tout dévoué,

Charles Lucas.

In a feeling reference to the deceased at last Monday's meeting, Mr. Graham said that M. Paul Sédille was known to his English confrères not only as a distinguished architect, but also as one who had attained eminence in decorative art.

NOTES, QUERIES, AND REPLIES.

The Architect in Relation to Fire Prevention [p. 57].

From Professor Kerr [*F.*]—

The question how to protect our houses from being accidentally burnt, as a matter of property, is in practice of less importance, because the fire-insurance offices deal satisfactorily with that, and in fact trade upon it ; but when from time to time we hear of lives being sacrificed in what we regard as the most heartrending manner possible, the case looks very like a cruel scandal. Experts talk about it with due expertness ; inventors produce their inventions freely enough, and duly advertise that they are duly protected by being patented : excellent pumping engines career along the street at demonstrative speed to extinguish the flames ; gigantic fire-escapes follow them to furnish retreat from the windows of blazing top rooms ; gallant men even meet death cheerfully in the work of rescue : but is the scandal removed ? Do scientific builders not blush ? What is the matter with them that this continues ?

Perhaps we begin our thinking at the wrong end of the argument ; it looks very much like it. Huge hotels, American skyscrapers, great factories and warehouses, monumental buildings, theatres, and so forth—these are the subjects we talk about, edifices of adequate magnitude, not unworthy of our attention as men of large ideas. All very well ; but suppose, as an experiment, we leave the transcendental and grandiose to the last, and take up the commonplace at the first. Let us, in other words, as common people, look steadily at a common unimportant dwelling-house of our own, and consider what can be done with that, to make, if we can, our nervous women and helpless children safe from the horrors of combustion, leaving for the moment greater folk and greater affairs to look after themselves ; and this not without a hope that the problem may turn out to be a smaller one on this smaller scale, and the result possibly all the more serviceable in the end as a stepping-stone towards success on the higher ground afterwards.

Take the ordinary fifty-pound house of a London street as a typical case, "brick built and slated" in the approved manner, and duly subjected to the direction of the Building Act. Apart from the external brickwork and slating and the like, what is it internally—really and truly what is it? May I say a mere tinder-box? Wood, wood, wood everywhere, and always wood thoroughly dry and of the most inflammable kind, waiting to take fire. Hollows, hollows, hollows, hidden inaccessible fire-channels everywhere, enclosed, actually constructed of this wood, so that the superheated air, once started on its course, and seeking everywhere through the maze to escape, searching every cranny for the lines of least resistance and never desiring destruction for destruction's sake, shall force its way into every hole and corner inevitably and rapidly.

These two leading characteristics of our ordinary building practice will be sufficient for present consideration; and I ask again, What is the matter with our brains? Does our boasted science not blush? Why, in the name of the commonest of common sense, cannot we make all this wood incombustible? Are there no chemists? Why do our architects persist in leaving—actually culpably constructing—all those childish, hidden, wood-enclosed fireways? Why may I not seriously propose, in spite of ridicule, that some public authority should experimentally build a little row of typical houses in this small way fireproof, and challenge the wicked to ignite them? All woodwork to be chemically made safe. No hollow spaces within partitions, floors, roofs, casings, boxings, wall-linings, skirtings, staircases, or whatever else—absolutely none to be on any account tolerated. No architect need fail to fill in the detail of this scheme; apparent difficulties, intelligently dealt with, surely will all disappear.

From Thomas Blashill [*F.*]—

It has been pointed out to me that the disastrous fire which I mentioned in my Paper as having taken place at Lima [p. 64] some seventy years ago actually occurred at Santiago in Chili on December 8, 1863. I am also informed that the houses upon the area of the Cripplegate fire had nearly all been rebuilt within recent years, which proves even more strongly than I had thought the need for reform in our methods of construction and arrangement.

REVIEWS.

FARM BUILDINGS.

Farm Buildings: their Construction and Arrangement. By A. Dudley Clarke, F.S.I. 3rd ed. revised and enlarged. 8o. Lond. 1899. [B. T. Batsford, 94, High Holborn.]

This excellent little volume, written by one who evidently has a thorough knowledge of the subject, will be found of very great use to land and estate agents, and also to architects who may be called upon to design farm buildings. The book is written, as the author states in his preface, from an agriculturist's point of view, as distinct from an architect's or builder's, and deals not only with the general principles of designing farm buildings, but also enters into the construction and fitting of each separate group. In glancing through the volume an architect is inclined to disagree with the author's strong liking for corrugated iron, but, as he points out, in the present state of agricultural depression the strictest economy, consistent with reasonably substantial construction, has to be exercised in any new building work on a farm; and, again, that too costly buildings are a mistake in view of the frequent changes in farming methods and the possibility of cutting up a large farm into smaller holdings. The author rightly insists on the fact that in designing farm buildings not only must the designer obtain an intelligent view of the present circumstances, but also forecast the possibility of future alterations or extensions to suit new tenants.

Chapter II. deals with the arrangement of homesteads, and is illustrated by plans; viz. (1) a model homestead for a farm of 400 acres, 100 acres of which is pasture; (2) a smaller homestead for a similar sized farm; (3 and 4) modifications of the above for a dairy farm; and (5) a homestead for an arable farm of 200 to 250 acres. The whole of the plans are well designed and fully described in detail. The plan No. 1 obtained for its author the silver medal awarded in competition by the Royal Agricultural Society for a model homestead.

A chapter is devoted to remodelling old homesteads, and another to the food department, in which much useful information is given regarding the preparation and mixing of foods for cattle, which necessarily affects the planning of this portion of the homestead. Cow-houses are fully treated, with many illustrations on their construction and fitting. Stables, piggeries, cart-sheds, and miscellaneous buildings are also described and illustrated, with outline specifications and quantities.

Chapters XIII. to XV. deal with farm-houses, small homesteads, and labourers' cottages. The author gives some useful hints on the maximum amount that should be expended on these buildings, chiefly based on the annual rental of the farm, and illustrates a few samples with approximate estimates of cost. It is, however, doubtful if at the present time, even under the most favourable circumstances, such a house as shown in figs. 35 to 39 could be executed substantially for $4\frac{3}{4}$*d.* per foot cube.

As regards alterations to old farm-houses, an architect will become a little sceptical when he reads that "a mean and uninviting exterior" can be made to look "pleasing and attractive" by removing "the meagre old lead windows" and substituting "well-proportioned modern ones, good bold heads to the chimney-stacks, and a porch to the front door." A very useful chapter is given on dairies, another on poultry-houses, and the last on repairs. An appendix is added on the Local Government Board regulations for dairies, cowsheds and milk-shops, and there is a good index.

The volume is well illustrated and makes an excellent text-book on the subject.

R. Stephen Ayling.

QUANTITY SURVEYING.

Quantities and Quantity-Taking. "The Builder" Students' Series. By W. E. Davis. 8vo. Lond. 1899. *Price 3s. 6d. [D. Fourdrinier, "Builder" Office, 46, Catherine Street, Strand, W.C.]*

The author had a difficult task when writing a small book on this large and complicated subject. In the wish to cut down his material as much as possible he has perhaps gone too far. What we have is excellent, but we want more, and no doubt in fresh editions there will be many additions. It is a book for students, and may be well recommended to them. The illustrations are simple and well chosen. Under "Slater" the method of "taking off" a hipped roof is well explained; a student once seeing figure 8 and the accompanying dimensions would not be likely to forget the point the author wishes to enforce.

The work first appeared as a series of articles in *The Builder* during 1897; this is an advantage to an author, as any little mistakes can be corrected before publication in book form. The word "lintels" is, however, used instead of "plates" on page 45, five lines from the bottom of the page.

A few important items have been omitted, such as sleeper-walls, walls built battering, brick-nogged partitions, terra-cotta, stone hearths, fences, and skylights. Perhaps in some cases this has been intentional, as Mr. Davis seems inclined to point out the theory of quantity surveying and to avoid much detail.

Prime cost is referred to frequently, but no definition is given: this should be remedied; and in the examples of billing there are no preambles, or list of preliminaries and sundries; the addition of these and a full bill would be improvements. Under "Excavator," page 13, the author might dwell more upon the method of taking the trenches the same length for external walls as the walls above; an illustration with a plan of a simple rectangular building might be given, or a reference made to figure 9, towards the end of the book.

Mr. Davis evidently has great faith in examples of "taking off," and wisely devotes a large portion of his book to this branch of the subject. The portions he has selected of a building are useful; the addition might be made of the lead work to an ordinary chimney-stack, and also the example of a staircase.

The author has a poor opinion of an architect when he advises the surveyor to examine the drawings, to see "that the chimney-breasts are large enough to include the number of flues necessary" (page 20), and also when he states, "It will be frequently found that the widths (of gutters) shown on plan are insufficient, after allowing for the increasing width at the higher end, owing to the rise in slope of the gutter and the drips" (page 73). No doubt his opinion is founded on experience, but it is sad reading.

With a little expansion this would be one of the best elementary books on "Quantity Surveying."

Sydney Perks.

MINUTES. V.

At the Fifth General Meeting (Business) of the Session 1899–1900, held Monday, 8th January 1900, at 8 p.m., the President, Mr. Wm. Emerson, in the Chair, with 13 Fellows (including 10 members of the Council), 15 Associates (including 1 member of the Council), and 1 Hon. Associate, the Minutes of the Meeting held 18th December 1899 [p. 80] were taken as read and signed as correct.

The decease was announced of Francis Thomas Dollman, *Retired Fellow*, Richard Reynolds Rowe and William Wilkinson Wardell, *Fellows*, and Paul Sédille, *Hon. Corr. M.* (Paris).

The Hon. Secretary drew attention to a number of works laid upon the table which the Library had recently acquired, some by donation and others by purchase, and, having specified the more noteworthy among them, moved a vote of thanks to the donors, which was carried by acclamation.

The following members attending for the first time since their election were formally admitted and signed the respective Registers, viz., The Rev. John William Robbins, M.A., *Hon. Associate*, and Robert John Angel, *Associate, Grissell Prizeman* 1891.

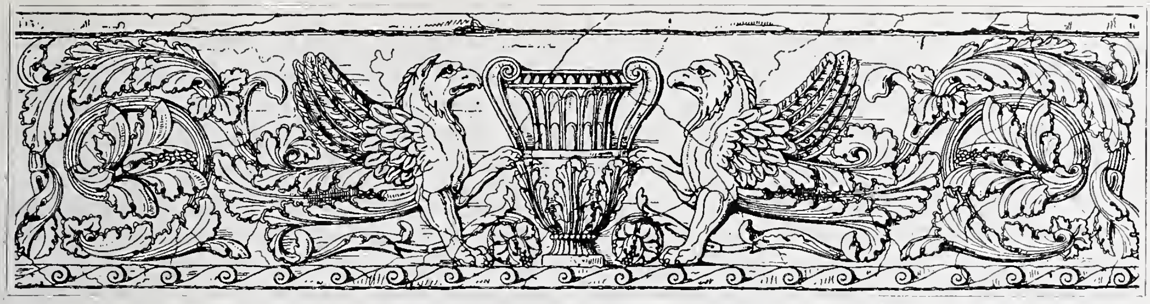
The following candidates for membership were elected by show of hands under By-law 9:—

As Fellows (4).

HERBERT BAKER [*A.* 1890. *Ashpitel Prizeman* 1889] (Cape Town).
FRANK GATLEY BIGGS (Blackburn).
JOHN MURRAY [*A.* 1892].
HARRY VERNON WOLSTENHOLME (Blackburn).

The Meeting having discussed various questions connected with the position of Associates, especially in respect to representations made to the Council by a deputation from a Committee of Associates, the President stated that the suggestions which had been received would be considered by the Council, who would at an early date submit proposals resulting therefrom to the General Body.

The proceedings then closed, and the Meeting separated at 9.45 p.m.



THE JOHN RYLANDS LIBRARY, MANCHESTER.

By Basil Champneys, B.A.

Read before the Royal Institute of British Architects, Monday, 22nd January 1900.

THE circumstances which led to my being asked to undertake the building of the Rylands Library dictated to a very considerable extent its general style and conformation. Mrs. Rylands had formed the idea of erecting a memorial to her late husband, which was to take the shape of a Library. With a view to the selection of an architect she, with her advisers, visited many buildings, among others Mansfield College, Oxford, with which, and especially with the Library, she was satisfied as fulfilling generally the intention and corresponding with the idea which she had formed. After inspecting this she asked me to send her a plan of the Mansfield Library, and shortly afterwards commissioned me to make a general plan of a building which would enable her to carry out her intentions, further particulars of which she provided. It was, therefore, evident to me that the type of building which was most likely to suit her requirements was, at least to some extent, that of a College Library, and also that the style which was most adapted to the idea, and most likely to satisfy my client's wishes, was that of Mansfield College. Not that I consider that any special reason, still less apology, is needed for the adoption of Gothic which, in spite of some present unpopularity, I believe merely temporary, can, I think, never completely fall into disuse or fail to influence the architecture of the future. But if the form and style suggested indicated a College Library in the later Gothic, the scope of the undertaking was obviously more extensive than that of any known example. Moreover there were special requirements to be fulfilled, which College Libraries do not include. In the first place a very large number of books had to be accommodated. Secondly, the Library was to consist of two independent departments, one for books to be read only on the spot, the other for books to be lent. This involved two separate entrances, which were to be capable of complete disconnection the one from the other. Further requirements were the provision of three large rooms, one specially large near the entrance, for the purposes of conference, and two smaller for ordinary Committee meetings; a suite of rooms for the Librarians, near the entrance, and in close communication with the principal Library; refreshment rooms for the use of the staff and visitors, with the necessary offices; rooms for unpacking, sorting, &c.; a caretaker's house, detached from but in close connection with the Library; accommodation for engines and dynamos for electric light, and an extensive basement for hot-water warming and stowage, a portion of which was to be assigned to the preservation of muniments. It was also urged on me that the vestibule should be of very considerable size and importance, and the main staircase or staircases ample and imposing. A further obvious requirement was that the building should be made, as far as possible, fire-proof. Though when it was designed there was no idea that the collection of books would be of so high a value as that to which by the purchase of the Althorp Library it attained, it seemed desirable that risks from fire should be, as far as possible, minimised; and, owing to the proximity of large warehouses and some poor and specially inflammable property, the situation suggested very considerable danger to the fabric and its contents. Stone vaulting, especially if the usual timber weather-roof can be dispensed with, is as safe a mode of building as can be used. As the position made it impossible that any but the steepest roof could be rendered visible, and there was, therefore, no loss of architectural effect involved, timber roofs were omitted over almost the whole of the building. The stone vaulting is covered with concrete brought to a level and covered with asphalte.

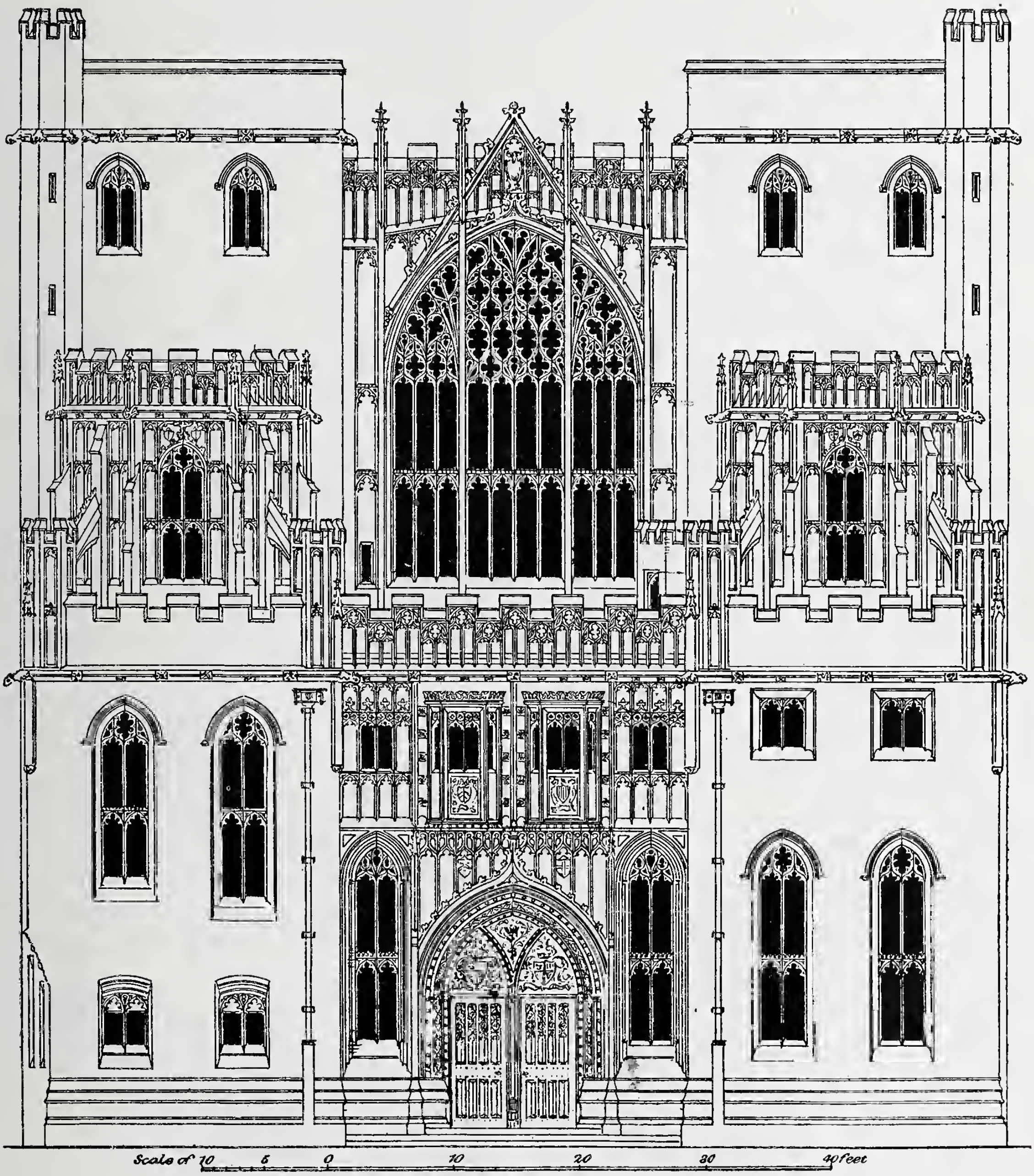
Another condition which had to be taken into account was the existence of ancient lights on almost all sides of the site. This consideration to a large extent dictated the general conformation of the building. The most important lights being opposite to the main front, the more lofty features, the higher towers, are set back a considerable distance from the frontage line, and for the same reason the side walls on the boundary lines are generally kept low. As the negotiations with regard to ancient lights were necessarily somewhat protracted, and it was considered desirable to commence building before such questions were settled, I advised covering the entire site with a layer of cement concrete, some 4 feet 6 inches deep, so that the main features of the building need be neither finally settled nor disclosed until this portion of the work was completed.

These were the conditions under which I had to work, and I will now proceed to give a general description of the building. I may mention that a considerable portion of the following description has appeared in various papers. It was furnished by me to Mrs. Rylands at her request. As, however, it is my own, and it would show a needless scruple to depart from it altogether, I must be content merely to amplify it for this occasion.

The main idea of the building being, as I have said, that of a College Library enlarged, the main feature—that is to say, the actual Library—consists of a large central hall from which reading recesses open on either side.

The principal and only conspicuous front of the site faces Deansgate, one of the chief thoroughfares of Manchester; and on the sides the site is bounded by two narrow streets—Wood Street and Spinningfield, both containing buildings of considerable height. With a view to obtaining adequate daylight for the Library itself, to avoid unnecessary interference with the rights of adjoining owners, and to secure quiet, the Library is placed on the upper floor, some 30 feet from the pavement level, and is set back about 12 feet from the boundary line at the sides. On the lower floor on either side a cloister or corridor, which gives access to the ground-floor rooms, occupies the remaining space, and is kept low, some 9 feet internal height, so as to allow of ample windows above it for lighting the ground-floor rooms, which are about 21 feet high. The main entrance is from Deansgate, and the whole of the front is occupied by a spacious vaulted vestibule, the ceiling of which is carried on shafts. These are placed at unequal intervals, the greatest width being given to the central passage. Above part of the vestibule are placed the librarian's rooms. The vestibule floor is considerably below that of the ground-floor rooms, and a short flight of wide steps leads up the centre and parts towards left and right, leading to the ground-floor level, and giving access to the cloistered corridors, whence the ground-floor rooms are entered.

From the vestibule level stairs on either side descend to lavatories on the basement, and from the ground-floor landing a wide staircase leads to the first floor, giving immediate access to the librarian's rooms and to the main Library. This staircase is crowned by a lantern contained in the octagonal tower on the left side of the main front, and is stone-vaulted throughout, the height from vestibule floor to top of lantern being 59 feet. The staircase leads into a vestibule opening to the Library. This vestibule occupies one of the larger towers, and the vaulted ceiling is some 52 feet from the first floor. The ground floor contains one large and two small conference rooms, which occupy the portion of the building under the Library nearest to Deansgate. These rooms are panelled in oak and have



DEANSGATE ELEVATION.

ceilings of modelled plaster. Behind these the ground floor is divided by a vaulted cross-corridor, which gives access to two large rooms in the rear of the main building, still under the Library. These were planned for the purpose of a lending library, and are accessible from a separate entrance in Wood Street. Behind these rooms, and in communication with them and with a hydraulic lift running from the basement to the upper floors, are receiving and packing rooms, connected with the cart entrance from Wood Street, and these again communicate with a basement co-extensive with the main buildings. Behind is a large chamber on the basement level, in which are placed the engines and dynamos for the electric lighting. On the first floor, with direct access from the main staircase and with a door opening into the Library, is the librarian's department, consisting of a small vestibule and two private rooms. These rooms have modelled plaster ceilings divided by oak ribs, and they are fitted throughout with drawers and bookshelves.

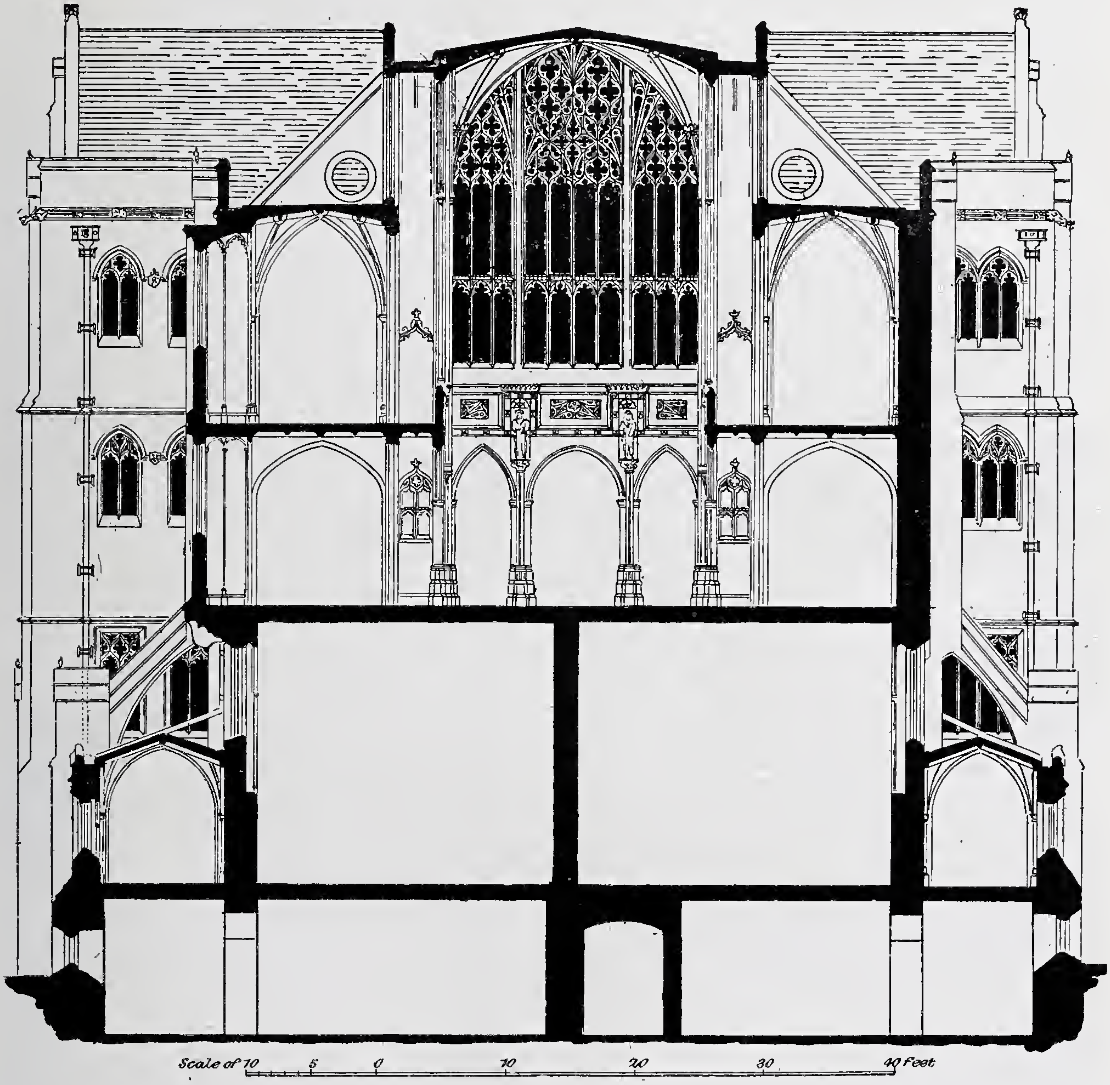
The Library consists of a central corridor 20 feet wide and 125 feet long, terminating in an apse at the end furthest from Deansgate. This and the apse together give an extreme length of 148 feet. The central hall is 44 feet from the floor to the vaulted ceiling, and is throughout groined in stone. It is divided into eight bays, one of which is on one side occupied by the main entrance, while the rest open into reading recesses.

There are, therefore, on this floor fifteen recesses occupied by bookcases. Co-extensive with the end bay on either side are projections to the limits of the boundary, which form, as it were, transepts to the building. On the Wood Street side the space obtained by this projection is added to the recess, and gives on both floors a large room for books of reference. On the Spinningfield side the extra space forms separate rooms, that on the lower level being the map-room, and that on the higher containing the early printed books. The recess opposite to the main entrance gives access to a cloak room and to a separate room of considerable size—the Bible room. Above this, in the octagonal lantern of the tower, is the Aldine room. The apse at the end is lined with bookcases, and adjoining it is on the one side the entrance to the lift-room and the refreshment room. This is a vaulted and panelled chamber, beneath which are the kitchen, scullery, &c., with staircase leading to the lower floors, and a service lift. On the other side of the entrance to the apse is a sink-room and a spiral staircase for attendants. Two staircases, one at either end of the main Library, lead from the lower to the upper floor. This is arranged on somewhat similar lines to the lower. A gallery runs completely round the central space, giving access to the book recesses and other rooms. The reading spaces on both floors have bay windows: on the lower floor their ceilings are of oak ribs and modelled plaster; on the upper floor they are vaulted. The two tiers of chambers together reach to a height of about 30 feet, and leave space above for a large clerestory beneath the main vaulting.

To the rear of the building is a house for the caretaker, separated from, but in immediate connection with, the main building. Adjoining the caretaker's house is a spiral staircase which leads to all the floors of the main building, and under the house are the boilers and furnace for the hot water warming.

The material used is mainly stone from quarries in the neighbourhood of Penrith. That used for the interior throughout is Shawk, a stone that varies in colour from grey to a delicate tone of red. Much care has been used in the distribution of the tints, which are for the most part in irregular combination. Many of the stones show both colours in a mottled form and serve to bring the tints together. As, however, towards the completion of the building, it proved impossible to obtain a sufficient quantity of mottled stone, the main vaulting of the Library had to be built in a way that gives a more banded effect than I had originally contemplated. The metal fittings of the bookcases are by Messrs. Clements Jeakes, of Great Russell Street; the system of them is more fully described below. I also append some notes as to the iconography of the building from a pamphlet given by Mrs. Rylands to those who attended the inauguration of the Library.

Appropriate carvings decorate the several parts of the exterior. Above the centre of the doorway are the initials "J. R."; with, on the left hand, the arms of St. Helen's (the birthplace of Mr. Rylands), and on the right the combined arms of the Rylands and Tennant families (Mrs. Rylands belonging to the latter). Different parts of the front elevation also display the arms of the several Universities, Oxford, Cambridge, Durham, London, the Victoria University, Aberdeen, Edinburgh, Dublin, the Royal University of Ireland, together with those of Owens College, Manchester.



CROSS - SECTION.

Facing the main doorway is a Symbolical Group, carved in the stone employed throughout the interior of the building. The group represents Theology in the centre, clasping the volume of Holy Writ, and directing Science, depicted as an aged man holding a globe, absorbed in study and discovery; while Art, in the form of a youthful metal-worker shaping a chalice, turns aside to listen. The thought conveyed is that Science and Art alike derive their highest impulses and perform their noblest achievements only as they discern their consummation in Religion. The sculptor of the group is Mr. John Cassidy, of Lincoln Grove Studio, Manchester.

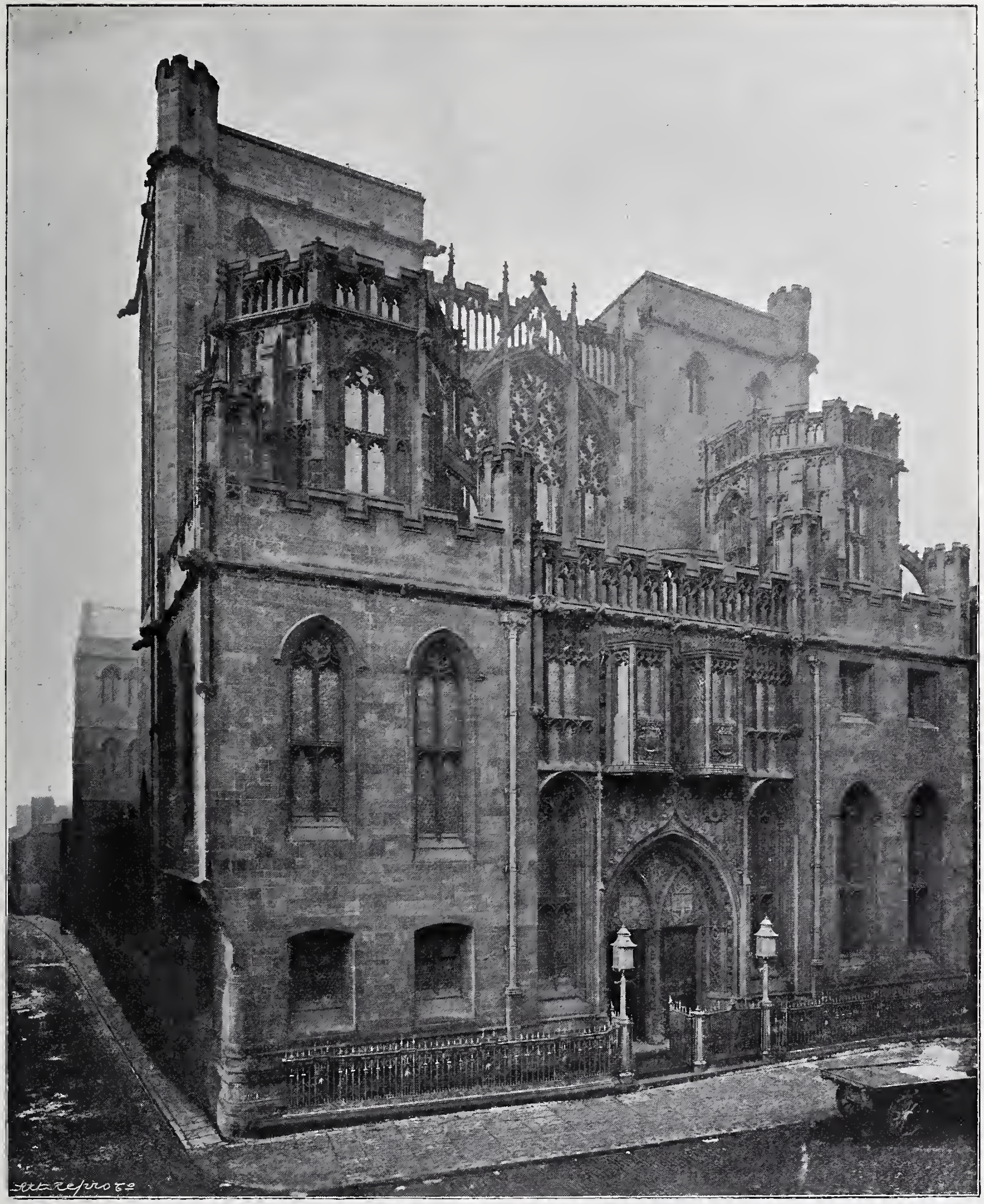
By the side of the western stairway are the arms of the City of London; by the eastern those of the City of Liverpool.

A series of Portrait Statues by Mr. Robert Bridgeman, of Lichfield, has been designed and arranged so as to represent many of the most eminent men of different countries and ages, in the several departments of Literature, Science, and Art. These are placed, for the most part, in pairs, marking both correspondences and contrasts in character and achievement. The statues, twenty in number, are ranged in niches along the gallery front. Those at the two end galleries represent the chief Translators of the Holy Scriptures into English; statues of John Wyclif and William Tyndale being placed at the north end; and opposite to them, at the south, Myles Coverdale and John Rainolds (or Reynolds), the great Puritan scholar who originated the revision of 1611, commonly known as King James's version.

The rest of the statues are opposite each other in pairs. Beginning from the northern end of the Library, John Gutenberg, on the left or western side, stands opposite to William Caxton on the eastern, representing the Art of Printing. Next to these Sir Isaac Newton and John Dalton stand for Science, the connection of the latter with Manchester, as well as his eminence as a Natural Philosopher, rendering the introduction of his statue in this place especially appropriate. Then Herodotus, the "Father of History," is opposite to Gibbon, historian of the "Decline and Fall." Next to these, Philosophy, ancient and modern, is represented by Thales of Miletus and Francis Bacon, Lord Verulam. Two pairs of statues represent Poetry—Homer opposite to Shakespeare, and Milton to Goethe. Then the chief phases of the Protestant Reformation are symbolised by Luther and Calvin, and British Evangelical Theology by John Bunyan and John Wesley.

These twenty statues are supplemented by a series of pictured effigies in the two stained-glass windows, designed and wrought by Mr. C. E. Kempe, of Nottingham Place, London, each window containing twenty figures, taken, wherever possible, from contemporary portraits, etc.; the whole number—statues and pictures—presenting, in the sixty personages delineated, no inadequate suggestion of all that is greatest in the intellectual history of mankind.

The great north window is symbolical of Theology. The upper compartment in the centre contains representations (according to the accepted conventions of Sacred Art) of Moses and Isaiah for the Old Testament, and the Apostles John and Paul for the New. Below these are figures of the four great Fathers of the Church, Origen, Chrysostom, Jerome, and Augustine. On the left hand the upper division represents Mediæval Theology, in the persons of Anselm, Thomas Aquinas, and Duns Scotus; the lower, the Theology of the Reformation, by portraits of Erasmus, Beza, and Melanchthon. On the right hand the upper compartment represents the age subsequent to the Reformation, in the persons of the Anglican, Richard Hooker, the Puritan, Thomas Cartwright, and the jurisconsult and theologian, Hugo Grotius. Below, the philosophical and critical side of a later Protestant Theology is represented in portraits of Bishop Butler, author of *The Analogy*, the American Jonathan Edwards, Metaphysician and Calvinistic Divine, and F. E. D. Schleiermacher, precursor of modern German critical thought.



VIEW OF PRINCIPAL FRONT.

The south window represents Literature and Art. Philosophy occupies the central division, in which the higher compartment represents the effigies of Plato, Aristotle, Lucretius, and Cicero, among the ancients; the lower, those of Descartes, Locke, Kant, and Hegel, among the moderns. On the left the great Moralists of the ancient and modern world are represented; in the upper compartment by Socrates, Epictetus, and Marcus Aurelius; in the lower, by Dr. Johnson, William Wordsworth, and Thomas Carlyle. The right-hand division is dedicated to Poetry and Art, the selected representatives of which are, in the upper compartment, Æschylus, Raffaelle, and Beethoven (Poetry, Painting, Music), corresponding, in the lower, with Dante, Michel Angelo, and Handel.

The main design of the Library, in its bearing upon philosophy, ethics, and intellectual culture, is further illustrated by a series of Latin Mottoes, culled from many sources, carved on ribbon scrolls between the windows of the clerestory, a printer's device being placed below each motto. They are as follows:—

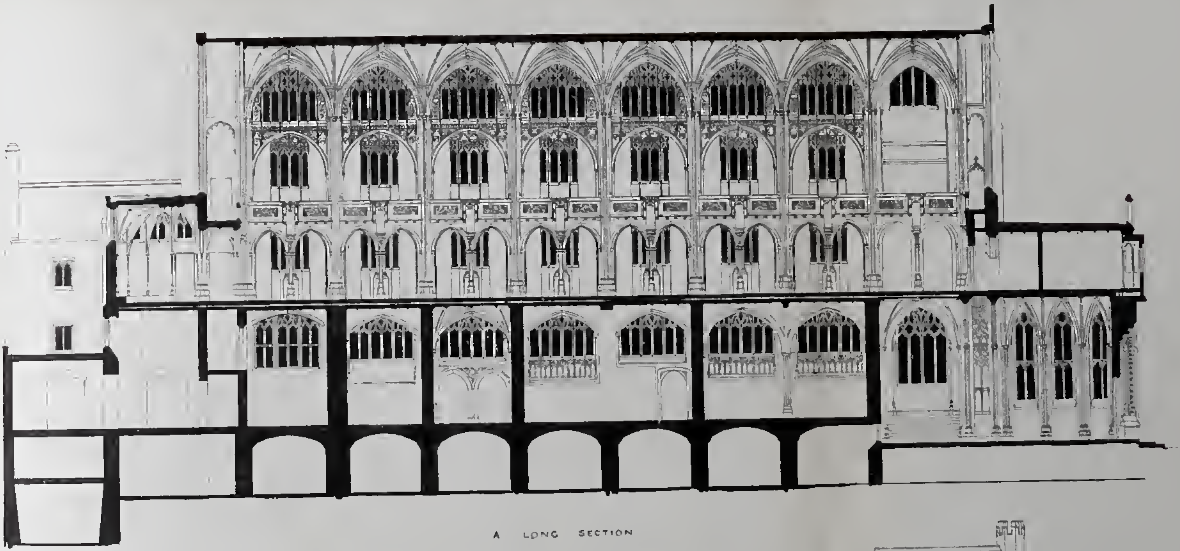
East side (right hand) from the Deansgate end—

Otium sine litteris mors est. (*Leisure without literary occupation is death.*)
Nemo solus sapit. (*There is no monopoly in wisdom.*)
Tendit in ardua virtus. (*Courage breasts the steep ascent.*)
Integros haurire fontes. (*Draw from unpolluted springs.*)
Est Deus in nobis. (*We have deity within us.*)
Humani nihil alienum. (*All that is human has interest for us.*)
Nescia virtus stare loco. (*Virtue knows no resting-place.*)
O magna vis veritatis! (*O the mighty force of Truth!*)
Quod fugit usque sequar. (*What flies me still will I pursue.*)
Per nos, non a nobis. (*Through us, not by us.*)
Veritatis simplex oratio est. (*The speech of Truth is simple.*)
Omnia mutantur, nihil interit. (*All things change, nothing dies.*)
Securus judicat orbis terrarum. (*The universal judgment may be trusted.*)
Non multa, sed multum. (*Not many things, but much.*)

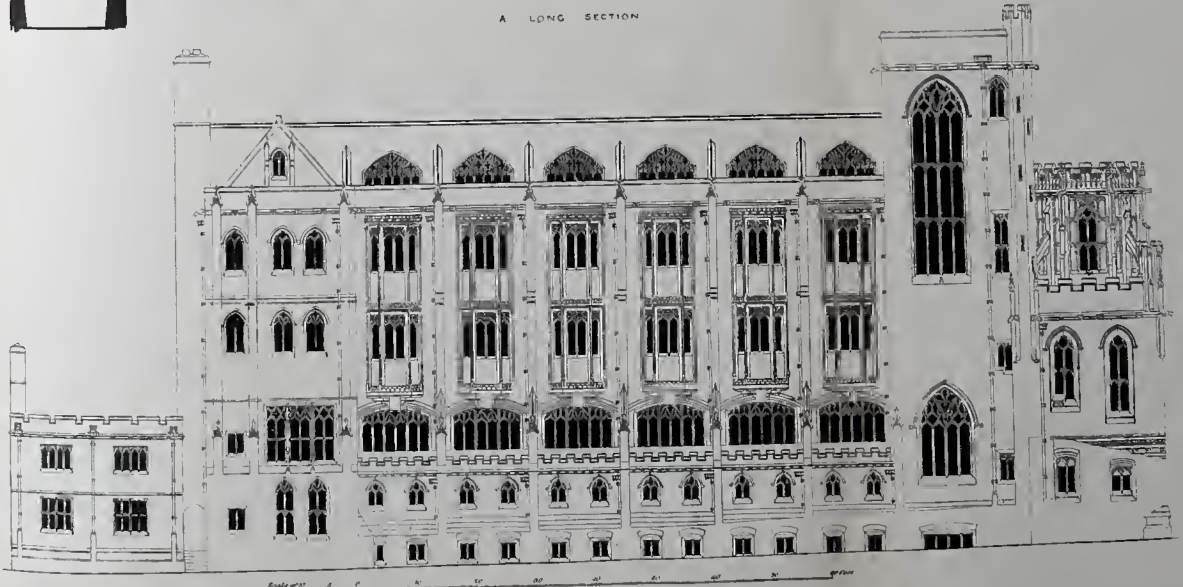
West side (left hand) from the apse—

Perpetui fructum donavi nominis. (*I have bestowed the gift of an enduring name.*)
Tolle, lege. (*Take and read.*)
Turris fortissima nomen Domini. (*The name of the Lord is a strong tower.*)
Nescit vox missa reverti. (*The uttered word cannot be recalled.*)
Nullius in verba magistri. (*Do not blindly follow any master.*)
Abeunt studia in mores. (*Study builds up character.*)
Possunt quia posse videntur. (*They can, because they think they can.*)
Vivere est cogitare. (*To live is to think.*)
Ratio quasi lux lumenque vitæ. (*Reason is the torch and light of life.*)
Credo ut intelligam. (*I believe, in order that I may understand.*)
Lex sapientis fons vitæ. (*The law of the wise is a fountain of life.*)
Sapere aude: incipe. (*Have courage to be wise. Begin!*)
Virtus repulsæ nescia sordidæ. (*Virtue knows no base defeat.*)
Quod verum est meum est. (*What is true is mine.*)

The system of the bookcases may be briefly described as follows: very large sheets of plate glass, some 9 feet 9 inches by 2 feet, are contained in gun-metal frames about 1 inch square. The exclusion of dust, so prevalent in Manchester, is provided for by rolls of velvet made elastic by the insertion of wool, which, when the doors are closed, are pressed between the door and a fillet. The arrangements for locking are somewhat elaborate. A key releases a trigger which cannot be grasped until it is released. The trigger works espagnolette bolts, which shoot upwards and downwards at the top and bottom of the frame with intermediate clasps at the side, and the locks are so constructed that the key cannot be taken out until the doors are completely closed. Thus it is impossible that a frame can be left unlocked through carelessness. The ordinary keys for these cases are subject to "sub-master" keys, and these again to "master" keys, and the doors of the building are similarly arranged.

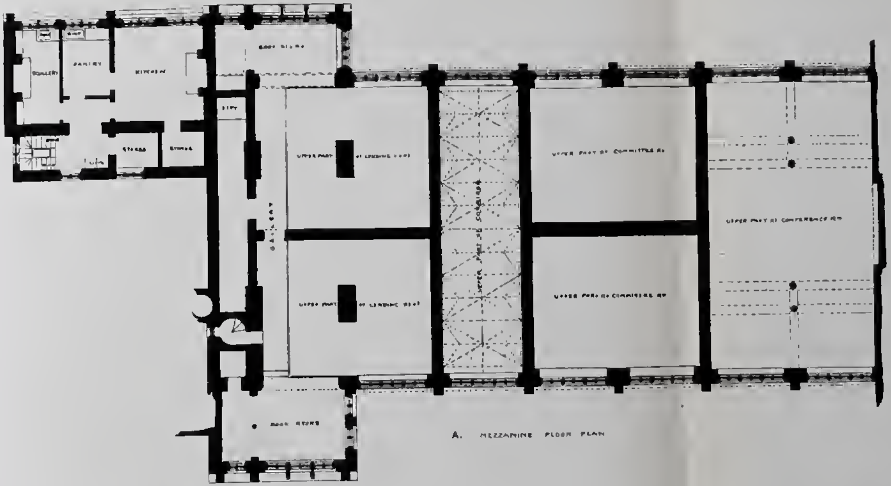


A LONG SECTION

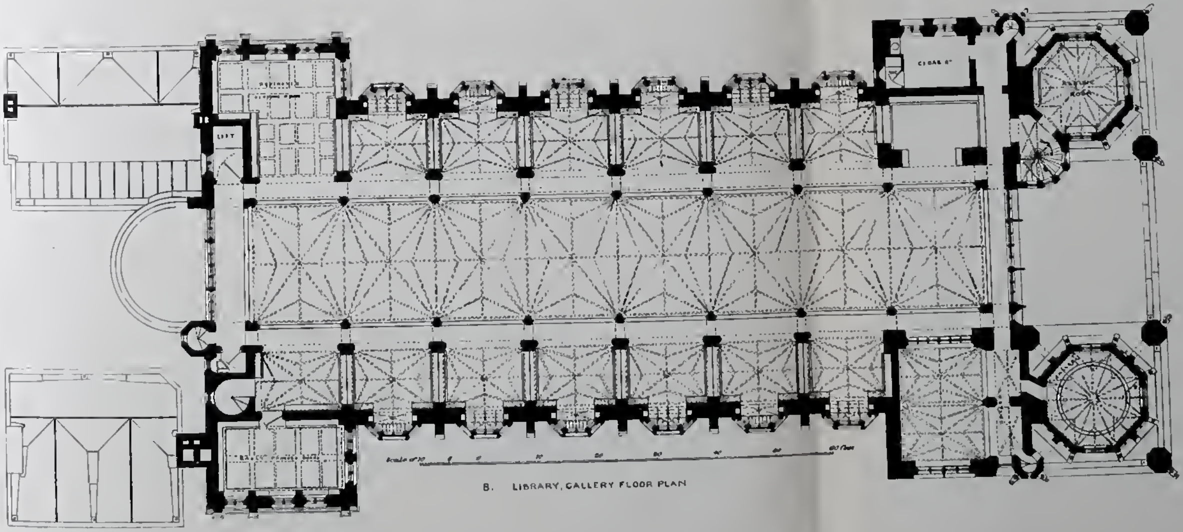


B. ELEVATION TO SPINNINGFIELD

[illegible] PHOTO-LITHO [illegible] HOLBORN [illegible]


SCULLERY
PANTRY
KITCHEN
BOOK STORE
LIFT
STORES
STORES
GALLERY
UPPER PART OF LENDING DEPT
UPPER PART OF LENDING DEPT
UPPER PART OF CORRIDOR
UPPER PART OF COMMITTEE RM
UPPER PART OF COMMITTEE RM
UPPER PART OF CONFERENCE RM
BOOK STORE

A. MEZZANINE FLOOR PLAN



B. LIBRARY, GALLERY FLOOR PLAN

C F KELL & SON, PHOTO-LITHO 8, FURNIVAL ST HOLBORN E C

I may add that all the actual building work and most of the panelling have been executed by Messrs. Morrison, of Wavertree, near Liverpool; that the electric fittings, the coil-cases, and much of the rest of the metal work are by Messrs. Singer, of Frome; that most of the figures and all the other carving are by Mr. Bridgeman, of Lichfield; that Mr. Thomas is responsible for the electric installation, under the supervision of Mr. Charles Hopkinson as consulting engineer; and that Mr. Stephen Kemp acted as clerk of works from commencement to completion.

DISCUSSION OF MR. CHAMPNEYS' PAPER.

Mr. J. M. Brydon, *Vice-President*, in the Chair.

The CHAIRMAN, in inviting discussion by members and visitors, referred to the monumental character of the work Mr. Champneys had carried out. The building was eminently an English building founded on English types. That was a very great point indeed, and one they could all appreciate, with whatever school they might be connected. With regard to the question of ventilation, it had been said that in the Rylands Library the windows were never opened; that they managed to ventilate the rooms by some other means. He should like to ask Mr. Champneys to explain how that was effected.

Mr. ASTON WEBB [*F.*], in proposing a Vote of Thanks to Mr. Champneys, said that the Paper he had read to them was just the kind of Paper the Institute was especially glad to receive —a Paper on a building only just erected, given by the architect himself, and dealing with a subject with which they all more or less must come in contact in the exercise of their work. Mr. Champneys had also kindly prepared for them plans and sections of the building and details of portions of it, so that those who had not had the good fortune to see the building could realise to some extent its magnificence. Mrs. Rylands, they all thought, had been indeed fortunate in having Mr. Champneys as her architect, and probably Mr. Champneys had considered himself fortunate in having a client who was willing and able to give him so free a hand in constructing the Library, and perhaps even still more in being allowed nine years to carry it out. The latter struck him as being a specially fortunate thing for Mr. Champneys, and well and truly had he availed himself of the time given to him. With regard to the general arrangement, it was evident that the building was intended to take a very special collection of books. There were two ways of treating a library interior: one was to make the books the great feature of the library by lining the walls from floor to ceiling with books, which on entering gave one the impression of a hush over the place which nothing else could give. They could all remember libraries, both new and old, in which the books formed the one great decoration and influenced the whole place, and a very grand effect it had upon anyone entering. Then there was the other plan, which was exemplified in some of the finest and oldest examples as well as in this latest instance, of impressing the visitor with the proportions, the dignity, and the richness of the building, apart to some extent from the books. Some year or two ago they had had a most interesting Paper from Mr. T. G. Jackson, dealing principally with old libraries, in which he showed them a series of photographic views of libraries, mostly in Oxford and Cambridge, in which both those treatments were adopted; and in looking at those views all must have felt that each treatment had its special advantages. In the Rylands Library he supposed it was not necessary to provide for the whole of the space being occupied by books. The Althorp Library contained some of the most precious gems of literature or of rare books that the world possessed, and it seemed fit and proper that those gems should be housed in a casket over which every care had been taken and no expense spared. He should imagine that Mr. Champneys had been free from the restrictions that surrounded most architects in planning a library of the present day. The supervision of the readers doubtless was amply provided for by many attendants, who were able to see into the recesses in which the books were turned over and read. In ordinary public libraries those recesses would be difficult of supervision, and it would be interesting to know from Mr. Champneys what sort of rules there were for those making use of the library. He thought the Meeting would be interested to know a little more about the bookcases. He had not quite understood whether the whole bookcase was in metal, or only the doors. In America the metal bookcases had been carried to a most extraordinary pitch. He had seen a room fitted up for books, with fittings sent over from America, which struck him as being a most perfect piece of work; they were in enamelled iron—which did not sound promising; but, apart from the design, the doors opened and shut and the shelves were moved very easily, and there was, of course, no shrinkage of the material or admission of dust when once the cases were fixed. He should be interested to hear whether Mr. Champneys had adopted metal entirely for the cases. One always regretted having to put books behind glass; but in a public library that was a necessity, and frames and casings of some sort must be used. He proposed most cordially on behalf of the Institute a Vote of Thanks to Mr. Champneys for his interesting Paper and the drawings which accompanied it, and congratulated him very heartily upon the successful completion of his beautiful building.

Mr. J. H. QUINN, Librarian of the Chelsea Public Libraries, said he, in common with many other London librarians, had attended the opening of the Rylands Library and thoroughly examined it. They felt that the building was quite worthy of the unique and glorious treasures which it contained. The building was in no sense a public library as compared with those that were maintained under a penny rate. So far as he knew anything of the matter, the original scheme, he believed, was to form an immense Nonconformist Theological Library, but whether that was before Mr. Champneys was called in he did not know. Later, when the Althorp Library was purchased, of course a much more important building had to be erected. He did not know whether Mr. Champneys was successful in the arrangements for protection against fire, but he hoped he would be able to exclude the Manchester atmosphere, for such a collection as the Althorp Library required special protection—the treasures were unique and many of them absolutely irreplaceable. The arrangements for the public were very carefully made, and such that the books could be well safeguarded.

Mr. LEONARD STOKES [*F.*] said that, speaking to the subject from an architect's point of view, the architecture of the building was admirable. That was a great point; for although the books might be of the greatest value, there was no reason why they should not be placed in a building which was also of the greatest value. If two or three more people had to be employed to look after it, that was a small matter, considering the magnificence of the collection and the monumental character of the building. Mr. Champneys had given them no idea of the cost. But it must have been an immense sum, and the figures would be interesting. There were one or two practical details about which he should like to ask information. The construction of the bookcases must have been a very difficult point to handle, because however much one stuffed up the cracks with velvet and wool, the differences in atmospheric pressure were so great that the air must get through eventually. Even in the case of tin boxes, which were supposed to be air-tight, he had been told that the air penetrated with the greatest freedom. The atmospheric pressure varied so from day to day and from month to month that it would be interesting for them to know whether the velvet and cotton-wool were effectual in keeping out the dust, and particularly the Manchester dust. He had visited Manchester once or twice, and it seemed to him the most dismal place to live in, and he should think the most suicidal place to keep books in. A bad atmosphere was most destructive to book-bindings, and the books became very quickly mildewed. He should like to second the Vote of Thanks to Mr. Champneys for his valuable and interesting Paper.

Mr. BERESFORD PITE [*F.*] said it gave him great pleasure to support the Vote of Thanks, the more so as not long ago Mr. Champneys had favoured them at the Architectural Association, one evening when the students had a small library design to make, with a very interesting account of some of the methods he had adopted in the Rylands Library for cleansing the air and providing against the difficulties Mr. Stokes had pointed out. However great the interest of this building might be from a librarian's point of view, its chief interest to them as architects was its very unique character as a work of architecture. One could see beneath the surface that Mr. Champneys had an ideal—as many of them had; and he had had a unique opportunity of carrying out his ideal on such a scale as was permitted to very few of them. When a man was put to the test of doing his utmost, he did his utmost in the direction in which he felt strongest, and none had any doubt as to the direction in which Mr. Champneys was strongest. He had given them a building which certainly removed the reproach that the Law Courts were the last word on the subject of English Gothic. It was interesting to note, as he supposed their critical historian would in future, that he had reverted to the style of Welby Pugin and Sir Charles Barry in the Houses of Parliament; but from that point of view, even in the adoption of a style of Gothic that was manifestly and distinctly English, Mr. Champneys had moved backwards, and his building could not be described as in any way such a modern building as the Houses of Parliament. It was interesting to note that they had gone a step further in a more thorough grasp of what was mediæval in spirit and character, and the Rylands Library might be, in the eye of the future New Zealander, the work of the most accomplished architect of the fifteenth century. It was from the standpoint of being a complete conception unhampered by the ordinary restrictions of a competition, the architect being practically free in his selection of style, that they had this building which was successful artistically, successful constructionally, and he trusted would prove successful practically from a library point of view. It was very seldom that a building was so fine an example of the scientific side of the artistic architect's work. He had an opportunity of going through the building before it was opened, and he must say that he was dumb-struck with the scale and the wonderful construction of the vaultings. One could see from the drawings how the staircases and the passages, as well as the Great Hall, were vaulted with most perfect thoroughness of constructive soundness; and that was a revelation at this late period in the nineteenth century. They seemed to have gone back to the days when the mediæval architects revelled in the exercise of that extraordinary constructive faculty in Perpendicular vaulting. The idea of constructing an exceedingly beautiful frame—a casket, as Mr. Webb had neatly described it—for a particularly valuable collection of books would commend itself to the artist and idealist rather than to the practical library builder; but the building must be worthy of its contents as the contents worthy of the building, and in this case the priceless nature of the contents justified the somewhat extravagant method of architectural adornment. If one might venture a criticism, it was as to the colour quality of the building. At the present moment, seen under the rare sun of Manchester, it might be beautiful. He happened to see it on a murky but otherwise clear day, and the internal effect was sombre, with the tints Mr. Champneys had described clearly discernible in the stone-work. But what those tints would become when one reflected that the whole colour effect of the building relied on the preservation of the present texture of the stone internally, and with little opportunity of employing colour decoration or any other device on the finished surface of the stone, it was a little mournful to contemplate. A building like that would stand for many centuries; but he very much feared that some generation or so hence its tone would be levelled by the unhappy fogs, which would reduce its pleasant greys and pinks to unhappy browns and blacks. There were many difficulties which had been got over in the site: the building was grouped, and was lofty and exceedingly dignified, though in a narrow street, for a building of such a size, and it was not without impressiveness. The main idea of its foundation was clearly expressed in it. It was a memorial building—it was a monument to a great benefactor, a monument to a great idea carried out by an architect with a great ideal.

Mr. H. HEATHCOTE STATHAM [*F.*] said he should like to add one or two remarks upon the architectural ideas that the building suggested. For one thing, it was rather curious to observe that in this building they had come back to the dear old three-aisle plan with internal chapels and buttresses; and it was curious to see to how many purposes that plan, which was supposed to be essentially a church plan, would really lend itself. Then he would congratulate Mr. Champneys with having in this case got over what Fergusson said was one of the greatest drawbacks of mediæval cathedrals—viz. the presence of a timber roof over a vaulting. He had often thought that more monumental buildings could be produced if they could get a cover to a building otherwise than by putting a timber roof over it. He had never seen the building, but when he saw a sketch of it some time ago he had wondered what was the meaning of the two octagonal turrets in front of it, much lower than the rest, but which gave a distinctive character to the building. Now they found that the towers were pushed back in consequence of rights of light on the other side of the street, and then the space in front of them was made use of for rooms in an octagonal turret at a lower elevation. That was a happy instance of getting architectural character out of a mere practical necessity; it was a new feature in the building which to a great extent gave an original character to the end elevation. It simply resulted from taking the best advantage of what at first sight seemed to be a disadvantage, in having to push the front back from the street. As Mr. Champneys had been good enough to say that he would answer questions, he would conclude with one. In the side elevation, in the centre of the arch of each of the lower windows which formed the lighting, he supposed, to the Committee Rooms, was a square wide space looking like a keystone. It would be rather interesting to know what it was for. He took it that it was a stone left in for sculpture in some kind of symbolical device. He certainly had the greatest admiration for the building, and joined in supporting the Vote of Thanks to Mr. Champneys for having so kindly come down to tell them about it.

Mr. E. W. HUDSON [*A.*] asked whether it would be possible to have one of the bays, or one of the "chapels," as they had been described, to a little larger scale. He had made out the position of the bookcases, shown by dotted lines, but was not sure about the other divisions in the centre of the bay, or where the reading-desks might be placed. Then with regard to the floor, was it left as wood block or tile, or was it covered with any ordinary material? It would also be an interesting thing to know which were the fittings that had been designed by Mr. Champneys. The warming, he understood, was by hot water, which was more satisfactory than the burnt-up atmosphere they were accustomed to in some of the larger libraries. The only other point that struck him was the occurrence of battlements in the lower wall, as to which, he supposed, some would wonder whether that would be owing to the requirements of the Gothic style applied to a library.

The CHAIRMAN said he was sure they would all accord in the most hearty manner a vote of thanks to Mr. Champneys for his kindness in reading this Paper on such an interesting building. He had done so at comparatively short notice, and though, as he said, part of the description had been already published, it had been revised and considerably added to. The building was a unique one in many respects. It was not every day or to everyone that an opportunity occurred to erect such a monument as this, and the profession was to be congratulated on the fact that it fell into such good hands. Mrs. Rylands must have been very well advised indeed when she told her architect that she wished the building designed after the manner or in the character and style of Mansfield College, Oxford. He had not seen the Rylands Library, but he had several times had the pleasure of seeing Mansfield College, and, if Mr. Champneys would permit him to say so, he thought it was one of the most successful works that he had yet produced, and that was saying a great deal. He hoped that the building would be open for inspection by members of the profession, from the fact that it was a building not to be met with every day. The type of plan was familiar in one or two aspects, besides the church plan which had been suggested. It seemed to be founded on the type of the well-known library plan, such as one meets in the Laurentian Library at Florence and in the Library of Trinity College at Cambridge, with one little difference—that instead of the bays in the two examples he had mentioned being stalls in which the readers sat, in which the bookcases formed the bays, here they were converted into architectural features, and converted more or less into a nave and aisles; and consequently they possessed an architectural significance which in the examples he had mentioned was more or less wanting. There they were vast halls subdivided into stalls; here they were treated architecturally, in probably a unique manner, by converting them into constructive bays, with a centre nave and accompanying aisles, in which the readers sat. Then there was another little detail. In the long section each bay was divided into two by a slender shaft which carried a statue. That seemed a very happy idea, because it shut in the readers more or less away from the traffic going on in the larger hall outside. Then in each of the bays there was a little bay window. Now if there was a feature that probably had been run to death in recent years it was the bay window. They had it everywhere, sometimes where people could not even get into it and look out of it; but if it was appropriate anywhere it was in a little reading bay of a library, where it necessarily suggested that cosiness and comfort and quiet that were essential to such a building. Probably one of the best rooms for reading in the kingdom was the Library of the Reform Club in Pall Mall, where one felt that sense of rest that must be the essential feature of every room in which one wanted to read. From the way in which Mr. Champneys' plan was divided up, and from the reposeful character of the whole design, that must be the character of the Rylands Library. He congratulated Mr. Champneys on the time he had been able to take over the building. He had thus been enabled to study the manifold details of the building, which had resulted in its reaching such a state of perfection. Another thing struck him as being very appropriate—and it arose from the necessities of the plan and site—that was putting the reading-room at a level above the street. Deansgate, he understood, was a busy thoroughfare, and therefore one could easily see that in order to place a reading-room in a busy thoroughfare some steps must be taken to render it quiet. The great libraries ought to be easily accessible to the multitudes of people who want to use them, and therefore they must come in connection with the leading thoroughfares; and one of the ideas that had been so happily carried out in the Rylands Library was that of securing rest and quiet for the readers in the midst of a populous thoroughfare. Another point was the monumental construction of the whole building. It was vaulted throughout; there was no trickery or flimsiness of construction. Mr. Champneys had also been enabled to enlist the services of painters and sculptors in carrying out the building, and he was to be congratulated on having been able to secure the services of such men as Mr. Kempe and Mr. Cassidy.

Mr. BASIL CHAMPNEYS, in acknowledging the Vote of Thanks, said it had been a great pleasure to him to come and describe the building which had been perhaps one of the greatest interests of his life. At the moment when he was applied to for its plan, he had been thinking a great deal about a College Library. One had been projected of somewhat exceptional scale, and it had occupied his thoughts a great deal. When this commission came, he had got an idea in his head, and was able to make a plan with great rapidity; in about a day and a half he had put all the general plan and grouping on paper, and within a week had sent Mrs. Rylands a plan which in essential particulars had not been departed from. During the eight or nine years he had been at work on the building, he had given nearly half his time to it; but the alterations from the plan as first draughted were exceedingly slight. With regard to the question about ventilation, he had always intended that the air should be admitted to the building over the hot-water pipes, so that it should come in at a fair temperature, and at an early stage he had advocated filtering the air. That suggestion was not carried out in the first instance, as it was considered that there would be no possibility of excluding the foul air, and that it was unnecessary; he got the batteries, however, and other accessories, and waited for a better opportunity. The opportunity came when the Althorp books were purchased. He had no complete idea, in the first instance, what the purposes of the Library were; he was only told enough to influence the plan; but when the Althorp books were purchased, he strongly advocated the filtering of the air before it was allowed to pass into the building. He carried his point so far that as the air entered the building it was passed over screens loaded with cotton fibre, which caught a very great quantity of dust. He advocated water-sprays in addition, but these were not adopted. Such arrangements, however, were made that water-sprays could be added at any future time if they were required. He gathered from the first that the building was to be of a more or less monumental character, and that everything must be of the best, but that the building was to accommodate a monumental library was quite unknown to him. He need not say that he was extremely glad when he found that the collection of books was to be at least worthy of the building, however good he could make it. A good many papers spoke of the building as having something of a castellated appearance, as though it were intended for the protection of treasures. That he certainly did not originally contemplate; he rather had an idea that a more or less severe exterior would be better suited to a place like Manchester than one more ornate. When a quarter of a million pounds' worth of books came to be housed within the building, he thought that it was fortunate that he had given it a protective appearance; and when something was said about battlements, he felt that that feature had come in through luck more or less appropriately. As to the length of time before the work was completed, that was partly due to the fact that by his client's wish the fittings were not decided on until the fabric was practically completed. The fittings, bookcases, &c., were an elaborate and very expensive business, requiring a great deal of study—involving a delay of some two or three years. One considerable alteration he had been required to make. His idea had been to make the reading recesses even more private than they were at present. Having in mind certain old recesses in the Bodleian, it was his intention to divide off the recesses from the main hall by open stone screens. Mrs. Rylands, however, probably with the Althorp collection in mind, felt that the books should be a little more in evidence than they would have been by that means; and the screens were struck out—an alteration involving some difficulty to effect. As regarded supervision, as there were some 40,000 books, worth a quarter of a million of money, these of course could only be handled under supervision. Moreover, there would be very few that would be handled at any one time. It was rather a collection for bibliophiles than for general readers. Many of the books were very rare specimens. People interested in such works might come from all parts—Europe and America and the whole world—and even then they would not muster a very large number. He doubted whether there would ever be half a dozen people at one time in the Library for the purpose of seeing the books, and the Librarian and under officials would have to keep them absolutely under their own eye. When he planned the Library he had not contemplated the Althorp books, and if the supervision was not adequate, or if the plan of the building did not render it adequate, the only way to make it so was by having extra supervision. The material of the bookcases generally, all except the doors, was oak. They tried some of the American plans—and he did not know that they were practically unsatisfactory—but there was so much oak already in the building that they preferred that material for the cases. He had always been a hater of large sheets of plate-glass in any form whatever; but there were great difficulties in making the doors of bookcases in any other way. It made a heavier door for one thing, and it was difficult to put them up in such a way that the bars did not go wrong with the shelves, and unless the shelves are fixed (as in a Library of that kind they scarcely could be) one got a double row of horizontal lines. On the whole he accepted as a practical necessity large sheets of plate-glass, and as a matter of appearance he had seen no reason to regret it; in fact, it had been an opportunity of overcoming a prejudice, though his prejudice as to plate-glass windows in houses remained quite untouched. In the first instance he had no expectation that the books would have to be specially protected at all. Those he first sketched were perfectly open cases on the old college system, where the books were so easily accessible that anybody might take them out and replace them. That system was applied only to the portion of the Library used for reference books, which were unprotected. As to the atmosphere, he had done all that he was permitted to do by way of purifying the air, and he thought the system would answer, as far as he had been able to judge. One great thing they had done for the books was to exclude gas altogether. Gas was the most fatal thing—it took all the moisture out of the air and forced the backs of the books off in an extraordinary way. From the first they contemplated electric light. With regard to the colour of the material, he had deliberately adopted a reddish colour. He had always noticed in London (which was, however, not quite so bad as Manchester for stone) that if they started with a red brick they always got, even when it was much obscured by smoke, a little touch of warmth which was rather pleasing than otherwise. In Manchester he made a considerable study of the stones, and it seemed to him that white or grey stones simply became a dirty black, whereas red stone—such as the Runcorn stone used occasionally in Manchester, which, however, did not last—looked better than the stone which started without any colour, although many years had passed over it. As regards the site, that was bought before he had anything to do with it. Many people in Manchester considered the site too confined for the purpose. But he had always said he did not so much mind about this. On the Continent one frequently came across, in an exceedingly narrow street, some old building seen only in very rapid perspective, and it often was much more pleasing than if the building were seen standing out in some *place*. He did not mind, therefore, about the site, although one might perhaps get more honour and glory from a building put up in an open space; and, after all, the interior was far more important than the exterior. With regard to Mr. Statham's question, as to some blocks in the centre of the windows under the bays which looked like key-stones: they were in a sense key-stones; they were corbels built into the crown of the arches, projecting, and helping in a measure to carry the base of the bay windows. They were not without precedent: one or two examples would be found in old manor-houses, some of which were illustrated in Pugin. He had previously used them in Mansfield College, where they had devices, and there was an inscription running along the series of them. At the Rylands Library they were not in so prominent a position, and he left them plain. As to the reading-desks, about which a question had been asked, he had not carried out the fittings of those recesses further than to put the bookcases and panellings in. The reading-desks were dealt with by his client. The material of the floor of the Library and of all the other rooms was oak blocks; and in the passages the same sort of stone was used as in the exterior of the building, only harder than most of it, and slightly varied in tint. He had not used black and white marble, or anything of that kind, because he wanted to keep the internal colouring uniform. As regarded the future of the colour of the building he was rather hopeful. In the first place the filtration of the air must do some good. Even where there was no such filtration, as in the interior of Manchester Cathedral, which was of a stone not dissimilar in colour, the older parts had kept their original tint very fairly. He hoped in this case that, with filtration of the air, the stone would keep its colour permanently.

INCORP. 1837 1887

9, Conduit Street, London, W., 27*th Jan.* 1900.

CHRONICLE.

THE PRIZES AND STUDENTSHIPS 1900.

The Deed of Award.

To the General Meeting, 22nd January 1900:

Gentlemen,—Pursuant to the terms of By-law 66, that the Council shall, by a Deed or Writing under the Common Seal, award the Prizes and Studentships of the year, and announce such awards at the next General Meeting after the adjudication, the Council have the honour to state that they have examined the several works submitted for the two Silver Medals of the Royal Institute, the Soane Medallion, the Owen Jones and Pugin Studentships, the Godwin Bursary, the Tite Prize, and the Grissell Gold Medal.

The Royal Institute Silver Medals.

(i.) *The Essay Medal and Twenty-five Guineas.*

Two Essays reviewing the Architecture of the Elizabethan Period (*c.* 1550–1620) were received for the Silver Medal under the following mottoes:—

1. Thelma.
2. "Houses are built by rule."

The Council have awarded the Silver Medal and Twenty-five Guineas to the author of the Essay bearing the motto "Thelma" [*Mr. Robert W. Carden*].

(ii.) *The Measured Drawings Medal and* £10. 10*s.*

Five sets of Drawings were sent in, of the several buildings enumerated, and under motto, as follows:—

1. "Regulus"—Hampton Court Palace.
2. Sir Christopher Wren—Church of St. Magnus the Martyr, Lower Thames Street.
3. Unicorn—St. John's College, Oxford.
4. "Westward Ho"—Gresford Church, Cheshire.
5. White Wheel (device)—Raynham Hall, Norfolk.

The Council have awarded the Silver Medal and Ten Guineas to the delineator of St. John's College, Oxford, submitted under the motto of "Unicorn" [*Mr. James B. Fulton*], and a certificate of Honourable Mention to the delineator of

Raynham Hall, Norfolk, under device of a "White Wheel" [*Mr. H. Inigo Triggs*].

The Travelling Studentships.

(i.) *The Soane Medallion and* £100.

Eight Designs for a School of Fine Art were submitted, under the following mottoes :—

1. "Autumn Tint."
2. Furled Flag (device).
3. Hildreth.
4. "Insperata Floruit."
5. S. Barbara.
6. Tendimus.
7. Pomegranate (device).
8. "Prostasis."

The Council have awarded the Medallion to the author of the design bearing the motto "S. Barbara" [*Mr. Cyril E. Power*], with the sum of One Hundred Pounds for architectural study abroad during a period of not less than six months, under the specified conditions.

(ii.) *The Owen Jones Studentship and* £100.

Five applications were received for the Owen Jones Studentship from the following gentlemen :

1. Vivian John Cummings (London).
2. Sidney K. Greenslade (Exeter).
3. Jas. B. Fulton (London).
4. Geo. A. Paterson (Glasgow).
5. J. Hervey Rutherford (London).

The Council have awarded the Certificate and (subject to the conditions, among others, that the said candidate devote a tour of not less than six months' duration to the improvement and cultivation of his knowledge of the application of colour as a means of architectural expression, and furnish the Council with an original design in coloured decoration of a prescribed subject) the sum of One Hundred Pounds to Mr. Geo. A. Paterson, and Medals of Merit to Messrs. Jas. B. Fulton and J. Hervey Rutherford.

(iii.) *The Pugin Studentship and* £40.

Fourteen applications were received for the Pugin Studentship from the following gentlemen :—

1. Edwin Forbes (Edinburgh).
2. Shirley Harrison (Leicester).
3. Albert Herbert (Leicester).
4. Wm. Higenbottam (Sheffield).
5. John Jerdan (London).
6. James M'Lachlan (Edinburgh).
7. William D. Mill (Maxwelltown).
8. G. Salway Nicol (Birmingham).
9. Charles B. Pearson (Lancaster).
10. H. Raine (London).
11. J. A. Forbes Smith (Edinburgh).
12. E. W. Turner (Peterborough).
13. R. P. S. Twizell (Newcastle-on-Tyne).
14. J. A. Woore (Derby).

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate devote a tour of not less than eight weeks' duration in some part of the United Kingdom to the study of Mediæval Architecture) a sum of Forty Pounds to Mr. James M'Lachlan, and Medals of Merit to Messrs. E. W. Turner and J. A. Woore.

(iv.) *The Godwin Medal and* £40.

Five applications were received for the Godwin Bursary from the following gentlemen :—

1. A. E. Bartlett (London).
2. G. B. Carvill (London).
3. Sidney K. Greenslade (Exeter).
4. C. Hay (Maxwelltown).
5. W. A. Scott (London).

The Council have awarded the Medal and (subject to the condition, among others, that the said candidate spend not less than five weeks in some part of Europe, other than Great Britain and Ireland, or America, for the purpose of studying and reporting on works of Modern Architecture) the sum of Forty Pounds to Mr. Sidney K. Greenslade.

(v.) *The Tite Certificate and* £30.

Thirteen Designs for an Isolated Clock Tower and Belfry were submitted under the following mottoes :—

1. Andromeda.
2. Bow Bells.
3. Edificaturus.
4. Erica.
5. "Fafnir."
6. Hollyhock.
7. Italia.
8. Kudos.
9. Meg.
10. "Michele Sanmichele."
11. "Oxon."
12. "Spes."
13. Sphinx.

The Council have awarded the Certificate and (subject to the condition, among others, that the said competitor, after an absence of not less than four weeks, shall submit satisfactory evidence of his studies in Italy) a sum of Thirty Pounds to the author of the design bearing the motto "Edificaturus" [*Mr. Percy E. Nobbs*], and a Medal of Merit to the author of the design bearing the motto "Bow Bells" [*Mr. William Arthur Mellon*].

Prize for Design and Construction.

The Grissell Medal and £10. 10*s*.

Four designs for a Spiral Staircase were submitted under the following mottoes :—

1. Loire.
2. Spero.
3. Tempore Belli.
4. "Tiny."

The Council have awarded the Medal and Ten Guineas to the author of the design bearing the motto "Loire" [*Mr. Charles E. Varndell*].

The Ashpitel Prize 1899.

The Council have, on the recommendation of the Board of Examiners (Architecture), awarded the Ashpitel Prize (books value Ten Guineas) to Mr. Raymond Turner Barker (London), he having most highly distinguished himself among the candidates in the Final Examinations 1899. Mr. Barker was registered *Probationer* in 1890, *Student* in 1898, and passed the Qualifying Examination for Associateship in June 1899.

THE TRAVELLING STUDENTS' WORK 1899.

Pugin Student.—The Council have approved the work of Mr. J. Hervey Rutherford, who was elected Pugin Student for 1899, and who travelled in Devonshire, Oxford, Lincolnshire, and Shropshire.

Tite Prizeman.—The Council have approved the work of Mr. James B. Fulton, who was awarded the Tite Prize in 1899, and who travelled in Italy.

Godwin Bursary.—The Council have approved the Report of Mr. E. W. M. Wonnacott, who was awarded the Godwin Bursary in 1899, and who visited France and Belgium to study the Planning and Construction of Asylums.

Owen Jones Studentship 1897.—Work is exhibited by Mr. A. E. Henderson, Owen Jones Student of 1897, to whom an extra grant of Fifty Pounds out of the Owen Jones Fund was awarded in order to enable him to continue his studies in Constantinople.

In witness thereof the Common Seal has been hereunto affixed this Twenty-Second day of January 1900, at a Meeting of the Council, W. EMERSON, *President*; J. M. BRYDON, *Vice-President*; ALEXANDER GRAHAM, *Hon. Secretary*; R. PHENÈ SPIERS, H. H. STATHAM, *Members of Council*; W. J. LOCKE, *Secretary*.

The late John Ruskin, *Hon. Fellow.*

At the opening of the proceedings at Monday's General Meeting the Chairman (Mr. J. M. Brydon, *Vice-President*) said his first duty, a melancholy one, was formally to announce the decease of an Honorary Fellow of world-wide renown, Mr. John Ruskin. The feeling in the hearts of every one must be that a great personality had gone out from the land. Mr. Ruskin had been a power in the country for over half a century. In their own particular art probably no man in this age had influenced architects as he had. He was responsible to a great extent for that wave of Venetian Gothic which passed over the country, notable examples of which were to be found in Oxford and in London. He was the man who probably first awakened the English people to a knowledge of what art really meant: art in the life of its people, art in the true sense of the word, as an ennobling faculty which raised men and induced in them a longing for higher and nobler things. Probably in that connection no work had had more influence and deserved higher commendation, not only to students of architecture but to all who were striving for culture, than that magnificent book *The Seven Lamps of Architecture*, and particularly those chapters which dealt with Truth and with Sacrifice. The idea of truth was held in a very hazy fashion, and probably the idea of sacrifice for art's sake had never occurred certainly to ninety-nine hundredths of the English people, until Ruskin told them what it really meant. It must be to every one a matter of poignant regret that the man who had influenced so much the thinkers and the philosophers of art and of social politics had passed away from among them. Probably they were too near Ruskin now to estimate the true value of the part he played in English life, in English literature, and in art criticism; but he hoped, and he thought it might be recommended to the Literature Committee, that some notice by way of a paper or otherwise might appear in the JOURNAL on the influence of Ruskin in relation to architecture in this country. In accordance with their usual custom he would propose that a vote of condolence with his relatives be entered on the Minutes of the Meeting and communicated to them.

The vote was unanimously agreed to.

The Artists' War Fund.

At the same Meeting the Chairman stated that he had been requested to call the attention of members to the following circular letter, which had been issued from the Arts Club, in connection with the Artists' War Fund:—

A movement in aid of the troops and sailors serving in South Africa, their wives and children, widows and orphans, has been initiated by the President and Members of the Royal Academy and by other distinguished artists, supported by the heads of Art Societies of the United Kingdom, and by the Lord Mayor of London, and graciously approved by Her Majesty the Queen, with the view to promoting an exhibition and sale of Works of Art to be given for that purpose by the artists of Great Britain and Ireland. The proceeds of the Fund will be handed over to the Mansion House Fund, either as a whole or divided among its sections, as the committee may consider the most beneficial and desirable.

The Lord Mayor and Corporation of the City of London have granted the use of the Guildhall Art Gallery for the first exhibition and disposition of the pictures, sculptures, &c.

Owing to the space at disposal being very limited, the committee is compelled to issue special invitations for contributions; by which means, it is believed, a high standard of quality will be secured and high prices obtained.

It is hoped that pictures of great size will not be sent, in consequence of this limitation of space.

Painters, draughtsmen, and engravers are requested to deliver their works framed, unpacked, and free of charge to Mr. Arthur Dicksee.

Sculptors are reminded that plaster casts are undesirable, on account of liability to damage. Their works should equally be delivered to Mr. Dicksee, unpacked and free of charge.

All artists (architects in particular) are invited to help the Fund financially if they cannot send works of art, and their names will be added to the list.

It is earnestly hoped that all artists who are willing and desirous to do so will respond generously to this invitation, for the sake of the patriotic object of this charitable scheme, and in a measure also for the sake of the dignity of the community.

Every work should bear the name and address of the artist, the price at which it is to be proposed it should be first offered, together with its title.

The scheme, which has been adopted after careful consideration of the interests of the fund and of the artists themselves, is briefly as follows:—

Works of art, contributed by artists and delivered at Mr. Arthur Dicksee's, will be removed to the Guildhall for placing. Artists are requested to put a price upon their work, such price to be regarded as an indication to the curator in the starting of prices from intending purchasers, but to have no binding effect upon the committee. These prices are only to hold good in the Guildhall for the "dummy sale," when any offer made will be accepted, subject to a higher price being subsequently offered, and so on. These bids, therefore, will be regarded by intending purchasers not as contract prices but as underwritings made with the patriotic object of increasing the fund. A full explanation of this method of sale will be set forth in the catalogue and will be explained to visitors.

At the close of the exhibition the whole of the pictures, sculpture, &c., will be removed to Messrs. Christie, Manson, and Woods', and there exhibited during a full week, and then sold by auction, the highest prices bidden at the Guildhall for each particular work being regarded as an upset or reserve price in favour of the last bidder. Works which have previously received no bids will be sold without reserves. It is suggested that every picture and drawing should bear the words "War Fund, 1900" under the artist's signature, so that if—contrary to expectation—any of these works come into the market at low prices the public will understand that the circumstance is owing to the fact that the work was presented to the cause of charity.

As offers of help have been made from important art centres in the country, the committee of this fund have agreed that every such art centre is cordially welcome to co-operate, each in its own sphere of influence, in such manner as may seem best to the local committee. Being thus affiliated to the main movement, and acting under the patronage of the committee of the fund, such contribution would be paid over to this fund—or, if preferred, be handed direct to the Lord Mayor's Fund—and acknowledged, in due course, for the final list of the committee. In this manner complete independence can be secured by each art centre, while maintaining the solidarity of the artist community.

The Chairman said that no words of his were needed to commend such a matter to them on behalf of the widows and orphans of the men fighting their battles in South Africa. There were many other means and ways of subscriptions, but this appealed especially to them as artists.

A letter from Mr. Aston Webb urging the claims of the Fund was also read by the Chairman, who concluded by asking for subscriptions to be sent to Mr. M. H. Spielmann at the Arts Club, 40, Dover Street, Piccadilly.

The Electric Light Generating Station, Victoria Embankment.

The following letter has been received from the Superintending Architect to the London County Council:—

To the Hon. Secretary, Art Standing Committee, Royal Institute of British Architects.

10th January 1900.

Sir,—I am instructed by the Highways Committee to inform you that the suggestion made to me by you as to the substitution of Portland stone in lieu of the red bricks has been duly reconsidered, and that the Committee has decided to have the elevations wholly in Portland stone.—I am, Sir, your obedient servant,

W. E. Riley,
Superintending Architect.

The Old Curtain Wall of Famagusta, Cyprus.

The following letter has been addressed by the Secretaries of the Institute to the Secretary of State for the Colonies:—

9, *Conduit Street, London, W.*, *10th January* 1900.

Sir,—The President and Council of the Royal Institute of British Architects have had their attention drawn to two letters in the *Times*, dated December 16 and 26, 1899, and respectively headed "Ruined Cities in Cyprus" and "Vandalism in Cyprus." They are also informed that plans have been accepted by her Majesty's Government for certain harbour works at Famagusta in connexion with a tramway to Nicosia, in which the destruction of portions of the curtain wall of the fortified city is contemplated.

The President and Council respectfully beg that in the carrying out of any such works the fortifications and surroundings of this remarkable and almost unique example of an old walled city should remain intact. They venture to urge the great value of the place to the historian, the artist, and the antiquarian, as a picturesque monument associated with some of the most stirring events of the Middle Ages.

In requesting her Majesty's Government to reconsider their decision, the President and Council would most respectfully suggest that the customs sheds and railway works, to make room for which it is intended to destroy the portions of the curtain wall facing the old port, might be placed in the large tract of almost vacant land, nearly a mile in width, lying to the south of the town.

They beg to append three tracings, one showing the plan of the fortifications, another the curtain wall from within Famagusta on the north side of the water gate, and another the curtain wall on the south side of the water gate.—We are, Sir, your most obedient servants,

Alexander Graham, *Hon. Secretary.*
W. J. Locke, *Secretary.*

The following reply has been received:—

Downing Street, 13th January 1900.

Sir,—I am directed by Mr. Secretary Chamberlain to acknowledge the receipt of your letter of the 10th instant, deprecating the destruction of any portion of the old curtain wall of Famagusta, in connexion with the proposed harbour and railway works.

Mr. Chamberlain has referred your letter to the High Commissioner of Cyprus for his observations, and a further communication will be made to you on the receipt of his reply.—I am, Sir, your obedient servant,

H. Bertram Cox.

The Honorary Secretary to the
Royal Institute of British Architects.

The late William White, F.S.A. [*F.*].

At the moment of going to press, news reached the Institute of the death of Mr. William White, F.S.A., which occurred suddenly on Monday, 22nd January. Mr. White was seventy-four years of age, and had been a Fellow of the Institute since 1859, serving on the Council in 1865–66. A notice of his career will appear in a future issue.

MINUTES. VI.

At the Sixth General Meeting (Ordinary) of the Session, held Monday, 22nd January 1900, Mr. J. M. Brydon, *Vice-President*, in the Chair, with 21 Fellows (including 11 members of the Council), 30 Associates (including 1 member of the Council), 2 Hon. Associates, and several visitors, the Minutes of the Meeting held 8th January 1900 [p. 101] were taken as read and signed as correct.

The Chairman having referred to the decease of Mr. John Ruskin, *Honorary Fellow*, and observed upon the eminence of his services for art in this country, moved, and it was thereupon

> Resolved, that the Royal Institute of British Architects do record its sorrow at the death of its Honorary Fellow, Mr. John Ruskin, and do offer to his near relatives an expression of sincere condolence with them in their bereavement.

The following Associate, attending for the first time since his election, was formally admitted and signed the register, viz. Raymond Turner Barker.

The Chairman commended to the attention of members a circular issued by the Arts Club appealing for support to the Artists' War Fund, and further read to the Meeting a letter from Mr. Aston Webb [*F.*] urging the claims of the Fund.

The Chairman having read the Deed of Award of the Prizes and Studentships 1900, made by the Council under the Common Seal [p. 114], the sealed envelopes bearing the mottoes of the successful competitors were opened, and their names and addresses found to be as follows:—

The Royal Institute Silver Medal (Essays).
  "*Thelma.*"—Robert W. Carden, 32, Leinster Square, Bayswater, W. (Silver Medal and Twenty-five Guineas).

The Royal Institute Silver Medal (Measured Drawings).
  "*Unicorn.*"—James B. Fulton, 23, Ampthill Square, N.W. (Silver Medal and Ten Guineas).
  "*White Wheel*" (device).—H. Inigo Triggs, Stafford House, Chiswick (Certificate of Hon. Mention).

The Soane Medallion.
  "*S. Barbara.*"—Cyril E. Power, 28, Great Ormond Street, W.C. (Medallion and, under conditions of Continental travel, £100).

The Tite Prize.
  "*Edificaturus.*"—Percy E. Nobbs, 49, Queen Street, Edinburgh (Certificate and, under conditions of travel in Italy, £30).
  "*Bow Bells.*"—William Arthur Mellon, 11, Finsbury Circus, E.C. (Medal of Merit).

The Grissell Medal.
  "*Loire.*"—Charles E. Varndell, 286, Vauxhall Bridge Road, S.W. (Gold Medal and Ten Guineas).

A Paper by Mr. Basil Champneys, B.A., on The John Rylands Library, Manchester, having been read by the author and discussed, a vote of thanks was accorded him by acclamation.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

Erratum.—In the list of newly elected Fellows printed in the Minutes of the last Meeting, the second name should be Frank Gatley "Briggs" (Blackburn), not "Biggs," as erroneously printed.

LEGAL.

Architect taking out Quantities unknown to Client: Negligence in issuing Final Certificate.

RESTELL *v.* NYE.

This was an action against an architect, in which the plaintiff sought to recover money alleged to have been received by the defendant to the plaintiff's use, also damages for the defendant's negligence. The case was heard by Mr. Justice Mathew in the Queen's Bench Division on the 23rd January. The defendant was employed by the plaintiff as architect in connection with the building of a bungalow for the plaintiff in Sussex. The terms of the employment of the defendant were contained in certain letters which passed between the parties, from which it appeared that the defendant was to be paid by the plaintiff for "plans, specifications, and supervision of works" 5 per cent. upon the amount of the expenditure, travelling and out-of-pocket expenses to be charged extra. In accepting the defendant's offer in these terms, the plaintiff wrote that the charge was to be an inclusive charge covering everything. The defendant entered upon the work. He prepared a specification on which tenders were obtained, and included therein a provision that surveyor's charges for bill of quantities should be 2½ per cent. on the amount of the estimate, and for drawings, &c., £10 10s. The defendant himself prepared a bill of quantities, and obtained a tender from some builders at Brighton for the erection of the bungalow for £1,790. The tender was accepted and a contract was signed by the plaintiff, which provided that the price should be paid by instalments upon the defendant's certificates, and that his final certificate should be conclusive evidence that the builders were entitled to receive payment of the final balance. The work was completed and the plaintiff paid the contract price, together with the cost of certain extras on the defendant's certificates. The defendant was paid by the builders 2½ per cent. on the contract price for taking out the quantities and the ten guineas for the drawings. The plaintiff alleged that the receipt of these payments by the defendant was a breach of the defendant's term of employment, and was, alternatively, a secret profit made by the defendant in the course of his employment. The defendant contended that the ordinary course of business had been followed, and that the plaintiff was fully aware that the cost of taking out the quantities was not included in the defendant's charges for acting as architect to the work. The second head of the plaintiff's claim was for damages for negligence on the part of the defendant. The plaintiff's case was that the defendant had omitted to check the builders' accounts with due skill and diligence, and had passed as extras works included in the contract, and had certified for sums improperly passed. These allegations were denied by the defendant. Since the action was begun the plaintiff had died, and his executors had been substituted as plaintiffs.

Mr. Bray, Q.C., and Mr. E. Morten appeared for the plaintiff; Mr. Bloxall and Sir Lennox Napier for the defendant.

Mr. Justice Mathew, in giving judgment, said that the defendant alleged that the terms of his employment by the plaintiff were that his charges were only to cover the ordinary work of an architect, apart from the work of taking out the quantities. The course of business with regard to taking out quantities was that the builder employed some one to take out the quantities. The builder affixed his own prices to the quantities, and he added to the amount of his tender the fee of the quantity surveyor, and in the event of the tender being accepted that fee was included in the first certificate given by the architect. It was not usual in London for the builder to employ the architect to take out the quantities, but it was said that in the country it was permissible, and that it was not considered that there was anything objectionable in that course being followed. In the present case the defendant, who was the architect to the work, acted as quantity surveyor, and the amount of his fee was included in the sum for which the defendant, as architect, gave his first certificate. Some time afterwards the plaintiff discovered that this had been done, and he claimed the benefit of the payment on the ground that by the terms of the employment the defendant's charge was to be an inclusive one. On the other hand, the defendant said that the agreement contained in the correspondence was confined to his ordinary duties as an architect, and that the builder might, if he had chosen, have employed any one else to take out the quantities, which, it was admitted, was a necessary thing to be done. His Lordship came to the conclusion that the agreement between the plaintiff and the defendant did not cover the cost of taking out the quantities; but his Lordship felt compelled to add that he did not think that the defendant had acted as an honourable man, because he had concealed from the plaintiff the fact that he was making this arrangement. The plaintiff was unfortunately now dead, but the learned Judge was satisfied from the correspondence that the defendant did not disclose to the plaintiff the arrangement with the builder as to taking out the quantities. It was conceivable that if the plaintiff had known of it he might have disapproved. With regard to the other part of the case, the damages were claimed on the ground that the defendant had been negligent in issuing his final certificate. The defendant was sued for negligence only; there was no imputation of fraud. The defendant's answer to the charge of negligence was that he had relied on the word of the builder, but his Lordship was satisfied that the defendant had not held the scales impartially, and had been guilty of negligence which had benefited the builder at the expense of the plaintiff. The question was, Could damages be recovered from the defendant in these circumstances? His Lordship was clearly of opinion that damages were not recoverable. The principle of law applicable to the case was that when two men employed a third to settle a dispute they were bound by what he decided. The parties were supposed to have satisfied themselves as to the third person's skill and care, and they were not allowed to say, after his decision had been given, that he had acted negligently or with want of skill. The result was that there must be judgment for the defendant, but without costs.

London Building Act—Incombustible Material for Roofing.

THE URBAN DISTRICT COUNCIL OF HENDON *v.* MARTIN.

This was a case stated by justices of Hendon, heard in a Divisional Court by Mr. Justice Grantham and Mr. Justice Channell on 12th January. The question was whether a material for roofing consisting of vulcanite covered with soil and ballast was an incombustible material within the meaning of the by-law—following the terms of the London Building Act—which provided that the roof of any new building should be externally covered with slates, tiles, metal, or other incombustible material. The respondent, who had used in certain new buildings the material in question, was summoned for non-compliance with the by-law. It appeared from the case that the roofs of the buildings were nearly flat. Over the joists boards were laid, which were not tongued and grooved so as to fit into each other. On the top of the boards was laid the vulcanite, about $\frac{3}{8}$ths of an inch in thickness. Above this were placed $1\frac{3}{4}$ inch of soil and a like thickness of burnt ballast. The justices found that without the covering of soil or ballast the external covering of the roof would not be of an incombustible character. But they also found that, the soil and ballast being laid on the vulcanite, the roofs were externally covered with incombustible materials, and therefore complied with the by-law, and they accordingly refused to convict the respondent.

Mr. Loehnis, for the urban district council, contended that the justices were wrong, because to comply with the by-law the whole of the material used for covering the roof must be incombustible. On this point he cited *Payne* v. *Wright* (1892, 1 Q.B. 104). He also contended that by incombustible material was meant something of a similar nature to slates, tiles, or metal, which the material in question was not.

Mr. Justice Grantham said that the question was one of fact. He thought that the justices were right. They had found that the roof was externally covered by incombustible materials. One inch of soil and ballast might not have been enough, but here there were three or four inches of admittedly incombustible materials.

Mr. Justice Channell concurred.

The appeal was accordingly dismissed.

Building Line: London Building Act, 1894, s. 22.

SCOTT *v.* CARRITT.

This was an appeal from a judgment of a Divisional Court (Mr. Justice Ridley and Mr. Justice Darling) on a special case stated by a metropolitan police magistrate on the hearing of an appeal against an objection, served by a district surveyor on the appellant under section 150 of the London Building Act 1894 to the proposed erection by the appellants of certain buildings at Nos. 180 and 182, Pentonville Road, beyond the general line of buildings, contrary to section 22 of the London Building Act 1894. The magistrate decided against the appellant. The Divisional Court upheld the decision of the magistrate. The appeal was heard in the Court of Appeal on the 12th January, before Lords Justices A. L. Smith, Rigby, and Collins. The facts are shortly stated in the report of the case before the magistrate—JOURNAL R.I.B.A., Vol. VI. N.S. [1899], p. 328—and are further indicated in the following judgment delivered by Lord Justice A. L. Smith in the Court of Appeal.

His Lordship said that it was conceded that the case was stated with the view of ascertaining the rights of the appellant as building owner in respect of the forecourts of Nos. 180 and 182, Pentonville Road. Different considerations applied to each of these forecourts. The general line of buildings was certified to stand back from the forecourts of the houses in this part of Pentonville Road, so as to run along the line of the main buildings. In front of the main buildings the vacant land in the forecourts had been built upon from time to time. On the forecourt of No. 180 a public-house of one story had been built. The public-house came up level with the foot pavement of the street. The forecourt of No. 182 was built upon for the purpose of a shop, and the building was erected with the consent of the Metropolitan Board of Works upon condition that the building should only be a low building according to the plans submitted to the Board of Works. The licence, therefore, was given on the condition that the only building erected should be the one put up according to those plans and now upon the forecourt. The appellant desired to build, without the consent of the County Council, high buildings upon both forecourts in the place of the one-story buildings now there. He failed to get their consent under section 22 of the Act of 1894, and he then tried to bring himself within section 43, which, in his Lordship's opinion, did not apply to the case. The appellant then contended that he did not want the consent of the County Council, because, so far as No. 180 was concerned, by subsection 2 of section 22 of the Act of 1894, the section was not to apply to any building erected after the commencement of the Act upon land lawfully occupied by a building, and that the forecourt of No. 180 was "lawfully occupied" by this public-house. That contention brought them back to 7 Geo. IV. c. clxii, which by section 140 prohibited the erection of any building within 50 feet of the side of the Pentonville Road, and enacted that any building erected contrary to the Act should be deemed a common nuisance. The public-house was erected after the passing of that Act, and it was clear that it sinned against the provisions of section 140. In other words, it was a common nuisance. Apart from any question of subsequent legislation, it could not be argued that the forecourt of No. 180 was "lawfully occupied" when the building erected thereon was a common nuisance. It was said, however, that, as section 75 of the Metropolis Management Act 1862 repealed section 140 of the Act of George IV., the public-house no longer unlawfully occupied the forecourt, inasmuch as the prohibition in the earlier Act was gone, and that therefore the land was "lawfully occupied" in 1894. But by section 108 of the Act of 1862, except as therein specially provided, nothing therein contained was to in any way prejudice or affect any act, matter, or thing made, done, or commenced prior to the passing of the Act. That meant that, though section 140 of the Act of George IV. was repealed, to put a concrete case, any house which was a common nuisance under the earlier Act was not affected by the repeal of that section. It did not make that lawful which was not lawful before. Then section 215 of the London Building Act 1894 repealed section 75 of the Metropolis Management Act 1862, but the repeal was not to affect the past operation of any enactment thereby repealed, nor anything done or suffered under any enactment thereby repealed. Therefore those two Acts kept alive that which was done in contravention of the Act of George IV. It seemed to him, therefore, that at the passing of the Act of 1894 the ground was not "lawfully occupied" within the meaning of subsection 2 of section 22 of the Act of 1894. Therefore, as regards the public-house No. 180, the consent of the County Council was necessary. Next, with regard to No. 182, the erection of the shop on the forecourt did not come within the prohibition in the Act of George IV., because the consent of the Metropolitan Board of Works had been obtained for the building of the shop. The ground was "lawfully occupied" upon a condition, but if the condition were broken it would be unlawfully occupied. Inasmuch as this litigation was instituted for the purpose of ascertaining what were the rights of the parties, in his opinion as soon as the appellant commenced to build in contravention of the condition the County Council could stop him upon the ground that their consent had not been obtained. For those reasons the appellant could not build on either plot without the consent of the County Council. The appeal must therefore be dismissed.

What constitutes a Contract in Law.

CROSHAW *v.* PRITCHARD AND RENWICK

This was an action to recover damages for breach of contract, heard by Mr. Justice Bigham in the Commercial Court of the Queen's Bench Division on the 20th November last.

The plaintiff was the owner of certain freehold premises in Bermondsey, and the defendants were builders. In August 1899 the plaintiff was desirous of having certain building work done on his premises, and on 22nd August the following letter was written by the plaintiff's architects to the defendants:—

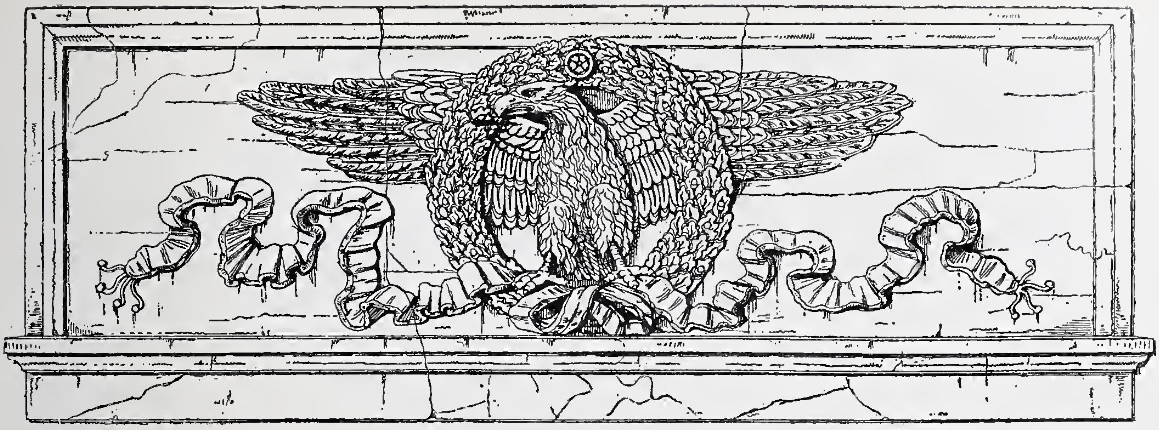
"Our client, Mr. Croshaw, of No. 116, Fenchurch Street, the freeholder of premises in the occupation of Messrs. Roberts, Adlard, & Co., as above, is about to make additions to the property, and we should be glad to know whether you would be willing to give us a tender in competition for the work. No quantities will be supplied, and our client does not bind himself to accept the lowest or any tender."

Subsequently the specification was sent to the defendants, and on 14th September the defendants wrote to the plaintiff the following letter, which was headed "Estimate":—"Our estimate to carry out the sundry alterations to the above premises according to the drawings and specification amounts to the sum of £1,230." On the next day plaintiff wrote that he accepted the defendants' "offer to execute for the sum of £1,230" the work in question. At a later date the defendants wrote that they had made an error in their figures, and that under the circumstances they must withdraw their estimate. The plaintiff had the work done by another builder at a price higher than that given by the defendants, and he now brought this action to recover the difference in price as damages for breach of contract. The question was whether there was a complete contract binding on the defendants. Their contention was that their letter of 14th September was not a binding tender; that the word "estimate" was advisedly used by them in order to avoid a final and binding agreement, which would have resulted from the use of words such as "we offer to execute the work." Evidence was given by several builders to show that this distinction is always observed in the trade.

Mr. Herbert Reed, Q.C., and Mr. T. E. Scrutton appeared for plaintiff; Mr. English Harrison, Q.C., and Mr. Acland for the defendants. *Lewis* v. *Brass* (3 Q.B.D. 677) and *Harvey* v. *Facey* (1893, A.C. 552) were referred to.

Mr. Justice Bigham said that the plaintiff's letter on 22nd August was an invitation to the defendants to send in a tender in competition for the work. That meant that they were to state the price at which they would do the work, and the specification was sent in order that they might have the necessary materials upon which to tender. Then, on 14th September, the defendants sent the letter "Estimate," and the question was whether the letter was an offer to do the work at the price mentioned. His Lordship was clearly of opinion that it was. It had been suggested that there was some custom or well-known understanding that a letter in this form was not to be treated as an offer. There was no such custom, and if there was it was contrary to the law. Both the plaintiff and the defendants, in his Lordship's opinion, intended these letters to constitute a complete contract. It was said that there was no complete contract, because in the specification there was a blank left as to the time within which the work was to be completed. In the ordinary course a subsequent agreement would be come to as to the time, but if there was no subsequent agreement then the work would have to be done in a reasonable time, but the absence of any such subsequent agreement would not have the effect of setting aside the already existing contract. The question for decision did not in fact depend upon any supposed custom of the trade, but on the language of the letters which had passed between the two parties. The defendants had made a mistake, and they must abide by the consequences of it. There would be judgment for the plaintiff for £250, with costs.

Note.—The foregoing reports are compiled from *The Times*.



ADDRESS TO STUDENTS. Delivered by the President, Mr. William Emerson, at the Seventh General Meeting, Monday, 5th February 1900.

IT is now my official and, I may add, also my pleasing duty to say a few words to our students, the younger members of the profession. In doing so I think it would not greatly advantage you were I to enter into the details of an architect's work in relation to the many subjects on which he may be called upon to exercise his talents, or were I to enlarge on my own experience in life and endeavour to explain for your benefit such things as, for instance, the points that should enter into your consideration when preparing plans and designs for an ordinary town or country house, though this is most likely one of the first subjects that many of you may be employed upon.

Nor do I propose to set forth my views as to what principles should be adopted in arranging a cathedral or church to meet modern congregational requirements, or what period or style should be your "point de départ" in preparing such a design, though this also is a problem which many who are ambitious will possibly early start upon solving. Neither do I think it would do any particular good to state on what lines I may think you should proceed in entering upon a competition, say, for a monumental structure, of the town-hall or other public building type, which, nevertheless, is an effort that many of you will doubtless shortly make.

Any one of such subjects would form good material for an exhaustive paper, but all are details of the knowledge an architect should have, and may, or indeed must be, studied and thought out by the enquiring and perceptive mind of the student who is hoping to succeed in his profession. Besides I have no doubt you will hear from Mr. Bodley many wise suggestions as to principles of planning and designing in the course of his critical remarks on the drawings submitted for the medals and prizes. What I therefore think of doing is rather to direct your attention to several essentials that lie at the root of the matter in the practice of architecture, if success and noble work be aimed at—almost first principles rather than details. I hope the few points I shall touch on may be found of some practical use, and perhaps elevate your thoughts in regard to the importance of, and the responsibilities attached to, your art and profession, and also perhaps be incentives to prosecute with vigour the necessary studies in the line of life you have selected.

The practice of architecture, I need scarcely add, is one of the most toilsome and difficult, as well as one of the most noble, worthy, and interesting of all secular pursuits, and one in which the life and history of a people should be indicated more than in any other.

To enter upon it is therefore a very serious step for a young man to take. Architecture is not solely a fine art, nor is it altogether simply a profession.

It has two distinct sides. The one is the artistic side, the other the practical and business side, and each is as essential to the other as the stomach to the head. I allude to this because one cannot help feeling that some of us appear to fancy that the sum total of architecture is comprised in the facile preparation of drawings that shall show well on paper. The design may be architecturally good, and artistically and correctly drawn; or it may be not good, and trickily and untruthfully drawn; and also we appear to lose sight of the effect of materials and detail, and of the important fact that the practice of modern architecture includes, besides the artistic element (without which it can only be termed building), the necessity for a knowledge of a vast series of practical subjects. For instance, without a certain amount of legal knowledge an architect cannot safely advise his employers regarding contracts with builders, or in respect to the purchase of or dealing with building sites. He should understand the respective legal rights of tenants and owners of property, and the laws as to rights of light and air, and adjoining owners. He should be acquainted with the sanitary and protective enactments for buildings erected under the laws of the Local Government Board, and factory and other Acts, and under school regulations; also with the legal points in respect to the rights of the parishioners and clergy in ecclesiastical edifices: neither can he ignore such legislation as the Workmen's Compensation Act, which has had to be taken into account by our Council in dealing with the form of contract between employers and builders; and he must understand the legal side of the County Council's Building Acts—if he ever can fathom it.

I do not mean to suggest that an architect should be so complete a lawyer as to be competent to advise his employers on any intricate legal question arising through building operations—that would be neither advisable nor safe—but I do mean that he should have such an acquaintance with these matters as to recognise the obligation of attention to points in his schemes, plans, and advice to his employers affected thereby; otherwise his ignorance or neglect may involve his employers, who should be his best friends, in serious difficulties and pecuniary loss. In the course of an architect's varied practice many of these questions are sure to crop up, and woe betide him if he has disregarded them, though to know them all may be the work of a lifetime.

There must also be a knowledge of the latest scientific inventions affecting buildings; of construction in all its details: materials, accounts, and the values of materials and labour.

But apart from all the practical matters, and to turn to the artistic side, a wide appreciation of the beautiful in all styles of architecture is necessary for the enlargement of the views, and to open the eyes as to what architecture in its highest aspirations really means.

My old friend and master, the late Mr. William Burges, used to point out to his pupils the necessity of knowing how to learn—the time saved by a knowledge of what was best to study—and he emphatically declaimed against the waste of time involved in making many pretty sketches rather than a few careful measured drawings of good examples.

A pretty sketch may show a certain effect; but, without dissection of the building sketched, how that effect is obtained can no more be understood than the working of the human frame without the study of anatomy. Burges also had a maxim, that in art the thing that looks well is well. There is manifestly great truth in this. The false, either in architecture, painting, sculpture, music, or literature, neither looks well, sounds well, nor reads well. And this is discernible to the cultivated eye and ear in regard to these, in the same measure that the false ring about a double-minded person is instinctively perceptible to the honest and truthful soul. All these points suggested infinite food for reflection to us, and it could not do students any harm to consider them now.

The practice of architecture *should not mean* to those adopting it just a method of gaining a livelihood, and consequently the obtaining of clients as the first consideration (no matter by what way), and the giving the least possible value in the shape of brain work with smallest trouble in return for their remuneration. Were this the idea bad builders might be evolved, but never good architects.

It *should mean* the putting of selfish ends on one side for the sake of the art, with a determination that no personal considerations shall weigh in the balance, providing in the best manner for our employer's wants at any amount of self-sacrifice, and building for them in truth and beauty, to the utmost that may be in the capacity of the architect. If you do not quite grasp the full meaning of this you cannot do better than study the works of our late Honorary Fellow Mr. John Ruskin, whose death we are lamenting; and more particularly his *Seven Lamps of Architecture*, which include the Lamp of Truth. All that he says need not necessarily be taken for granted, but all is worthy of the deepest reflection.

Further, it should also mean, building not just for the present, but for the future, works that may last, and of such a class that future generations may form a high, and not a low, opinion of what we are as a nation. To arrive at this altruistic level of work means an exalted feeling of the value to others of beautiful architecture, and the worth to the world of honest hard work.

There are several things most necessary for the student who has such high aims. First, there must be diligent study. Secondly, there must be the power of drawing. Thirdly, there must be enthusiasm. And with all these there must be combined a high ideal of the responsibilities of the architect. Then, granted that you possess all these gifts, if you have not the *spirit* of architecture, you had much better leave it entirely alone; for if under the circumstances architecture paid you, you would derive no sort of satisfaction from it but the monetary one, and that can be obtained with less exhaustive labour in inferior occupations.

But with regard to study, and how and what to study—and I am alluding now to the art side of architecture, not to the practical—in the latter the courses of study necessary for passing in the subjects of our Examinations are known to you all. They form the foundation on which your art must be erected, and without such practical knowledge the art side is well-nigh useless. But besides these practical courses of study, all the subjects which a cultivated gentleman should have an acquaintance with, including the classics, ancient and modern history and literature, are equally necessary to educate the taste, to assist the imagination, and properly to comprehend the evolution of architecture. That all these are needed is clear when you reflect that all that can be constructed, from large architectural or engineering structures down to goldsmith's work and embroidery, legitimately comes within the province of the architect. All engineering works, bridges or otherwise, are the better for the architectural element being combined with them, and all architecture comprises some amount of engineering; neither can afford to ignore the other. Also embroidery necessitates knowledge of form and design. This, then, means a vast range of study for the student. But with regard to the study of architecture proper, it is well to begin by carefully examining any one style that attracts you, and to study it thoroughly from its commencement to its end—if you can find either. In reality you will discover, if you have any real zest in the work, that to find any beginning or any end you will be forced into the comparative analysis of all styles. If you do not consider Greek work you will not understand Roman; if you ignore Roman, half the meaning of Romanesque and Byzantine will be an enigma to you. Unless you have studied all these thoughtfully you will really know but little. For instance, you would not understand how such a thing came about (though of no great importance) that the classic entablature should have developed—or shall I say, have been compressed?—into the

Gothic abacus; also without comparing Mahommedan work with Gothic many of the possibilities of the pointed arch would be unappreciated; and if the differences in the treatments of the Oriental and Classic or Italian domes have not been considered, you will miss seeing the potentialities of the dome or what might be done with it if you ever have the chance. And the origin of hybrid or deduced examples of architecture can only be understood by a knowledge of the purer styles from which they are departures.

Therefore study all styles of architecture, and without prejudice. On one occasion some years ago I had been showing a younger architect some photographs of magnificent work in India; he looked at them listlessly and then said, "Well, of course we cannot feel any interest in Indian things after having seen the glorious Early French architecture in Normandy."

If a mind is so cramped as that, and there is the latent idea that all perfection of architecture may be found either in a Greek, Early French, fourteenth-century English, Jacobean, or a bastard Queen Anne, Georgian, or any other style, there would seem no redemption for so small a soul, unless perchance a change to thoughtful study and intelligent travel might compass it.

There is nothing more contracting to the individual's mind than existence in a small circle, and nothing more cramps perception than imagining perfection to exist in one direction only.

Therefore the best of the various styles and their purest examples should be the subjects of the first most careful study, reflection, and comparison by the student. The finest works in architecture are those which have perfectly suited the circumstances of the age and nation for which they were erected, were well and honestly constructed, stately and beautiful in proportion and detail, and truthful in the expressions of their purpose. And the best examples are those which are the purest, whether in Greek, Roman, Gothic, Renaissance, or any other period. In examining hybrid or deduced styles much of picturesqueness and interest is frequently found, but there is generally a something lacking of the greater elements of the finest architecture, either in simplicity and breadth, monumental grandeur, or truth, which jars on the most cultivated and refined taste. In this, however, architecture only expresses something of humanity; the perfectly pure human would be somewhat above this world: so with our mundane needs, the absolute purist in architecture would find he could not altogether comply with modern requirements. Nevertheless I reiterate that the purest examples of architecture are the most worthy of careful drawing and measuring by the student. Occasional eccentricities of detail sometimes perhaps, when even a trifle bizarre, lend now and again interest to the general harmony of a design, as a discordant note may give point to a passage in music; they are incidents which may be interesting and quite worthy of sketching, but as details or points of accentuation only, not as precedents with a view to give a general character or eccentricity to a design. I note this point because of late years debased or eccentric detail seems to have pleased the taste of the public, as well as that of architects, and appears to pass for style. It should be remembered that it is infinitely more difficult to design thoughtfully and effectively with simplicity and breadth of treatment than to endeavour to hide artistic incapacity by an elaborate clothing of ill-adapted ornament, or by an affectation of originality of thought, or eccentricity of form, to attract the attention of an unthinking crowd. So the first suggestion I make to you is, study most the best and purest examples of all styles of architecture.

Some time ago the one thing most prominently urged upon students of architecture was the paramount necessity for draughtsmanship—drawing first, drawing second, and drawing last. This resulted in much good, and draughtsmanship has now been brought by many of you to a high pitch of excellence; but also, I think, some harm has resulted. Too great value seems occasionally attached to the effect, technique, and execution of the drawing itself; and the quality of the architecture, a far greater thing, is sometimes apparently considered of secondary importance. This is entirely wrong. The effect of architecture certainly cannot be shown without good drawing, but draughtsmanship, however excellent, cannot make inferior architecture good. William Burges used to say there was only one man in whose architectural perspectives he could really understand the details, and that man was Axel Hermann Haig. Of late, however, many of our younger architects have done splendid work. Nevertheless occasionally, on looking at the numerous clever sketches made, something of the same feeling strikes me even now.

A good general effect of chiaroscuro is given; little touches of shadow are put in effectively, and impossible high lights and unnatural broken lines are introduced, mainly with a view to make a picturesque and pretty drawing, and not truthfully to represent the design. It thus becomes inferior artist's work, and does not represent the architecture. Often not much more detail can be made out than, perhaps, that it is Renaissance or Gothic in character, and that the windows have square or arched heads, either circular or pointed in shape.

But on examining one of Mr. Haig's drawings, say of Chartres Cathedral, there are also grand and picturesque and pictorial effects of chiaroscuro, but the high lights and shadows are true. Details are shown by clearly defined drawing, and mouldings are so accurately suggested as to be almost as plainly read as in a working drawing, whilst the statues are absolute portraits. As architecture is largely composed of details, if a drawing slurs them over, and is indefinite, its vitality in a great measure is lost, and its utility sacrificed, if intended for an architectural drawing; and it becomes merely a picturesque sketch, of value simply in relation to its artistic quality and technique as such, not as a study of architecture.

The French understand this, and therefore their drawings of architecture are much more academic than ours.

I think our style of drawing is defective in many ways. French drawings give by clean lines and properly cast shadows a fairly truthful impression of the detail, relief, and projection of a building. By our method shadows are sketched in merely with a view to look pleasing on paper, and frequently convey a false effect of the cornices and other salient features.

Some years ago designs were mainly shown by coloured perspectives; then it was said they were so "faked up" by the artists that they were quite untrue representations of the designs. Consequently pen-and-ink drawings became the fashion. Messrs. Street and Shaw were the first and most conspicuous representatives of this style, and coloured architectural perspectives have practically disappeared.

But I would ask what can be more untruthful and misleading than a black-and-white line drawing of a building constructed of several differently coloured materials? A monotone design, no doubt, can be well shown this way, but is it not evident how misleading an etched drawing may be in representing, for instance, a design in red bricks and white stone? In the black and white it may look charming, yet when erected prove a most restless composition, owing to the spots, blotches, and streaks of white stone sprinkled all over its surface. Now this effect in a tinted elevation or coloured perspective would at once be apparent; in the black and white it is unnoticed, and when the building is erected it possibly disappoints the owner and the architect also.

No doubt the reproduction by the journals has much to do with this matter. Colour does not easily photograph, whereas black and white comes out most satisfactorily.

Pretty sketching is very seductive and of infinite use, but it sometimes leads to a distaste for the labour of making careful measured drawings—truly a tedious business, but without which no really useful knowledge of how details cause effects can be obtained.

My second word to you this evening is, therefore, learn to draw accurately and definitely, as many of you already do excellently well, but do not neglect to supplement it by careful dissection and measurements. Also study the human figure, for more than all else that instils a fine sense of proportion. But, above all, do not let sketching run away with you, or mistake drawing for architecture: it is not; but simply a means to an end, and bears the same relation to it that an alphabet bears to a language.

The third essential I would put before you as imperative to the successful accomplishment of noble architecture is an unlimited enthusiasm. If your work is to be worth anything at all there must be such an enthusiastic love for it that self and selfish considerations sink altogether into the background. Enthusiasm, derived from the Greek ἐνθουσιασμός, signifies "a God-inspiring zeal." If you look towards the sun your own shadow is unseen, being cast behind you; so if your mind's aspirations are steadfast towards a lofty ideal, through your entire possession by this God-inspiring zealousness there will be complete unconsciousness of self in respect to your art.

And this is most important, for then the inspired desire will be simply to do the most perfect work according to your light, for the sake of Art alone; other considerations will be only incidental to it, and eccentricities with the view of attracting attention to yourself, or of notoriety, will find no place in your designs, and your work will live.

This inspiration is manifest in the best and purest of all old examples of architecture, and proved by the history of the lives of some of the architects. For instance, how great must have been the zeal of Michael Angelo to urge him on with his work amidst intrigues, jealousies, pecuniary difficulties, and family worries and disappointments.

If it were needful for the attainment of noble work in the simpler olden times, how very much more must it be indispensable to carry a modern architect through the arduous labour necessary for the production of one of the complicated buildings of the present time, with its manifold requirements, and to sustain a young man through the toil at high pressure, the anxieties of business, and the many certain and vexatious disappointments which meet every architect in these dreadful days of competition, and indeed most other persons on their way through life, whatever that way may be.

Further, it is all very well to fancy, as some appear to do, that Architecture as a fine art is altogether apart from, and above, the sphere of such practical matters as drainage, heating and ventilating, electricity, hydraulic power, gas and water supplies, and such like. Granted that it is on a higher level, nevertheless there is no important edifice, public or private, erected now to which these things are not vital; it has been well said they are the very nerves of the structure. If any building is to properly answer to its requirements it must be not only artistic, but also scientific.

These scientific details require consideration by the architect from the very commencement of the inception of his scheme. Their introduction affects not only the plan but the design, and even details; and the ignoring of them or leaving them entirely to specialists to fit in as best they can in an imperfectly thought-out arrangement increases the cost, often spoils the building, causes inefficiency in future working, and vexes and irritates the employer.

But to grasp all these necessary and important details implies the thoughtful use of every talent with which you have been endowed, and an infinite capacity for taking pains; and in neglecting these things for the absorbing interest of the art side of the profession the architect, as well as any other person who does not use necessary foresight in all details of his profession, no matter what his business may be, is not doing his duty either to God or his neighbour or his country.

Because these things are surrounded by practical difficulties, are troublesome and not particularly interesting, to lose heart or interest in the work, and let them take their chance, is an easy but downward course. The architect who does so is lacking in a sense of responsibility; but on such a sure and certain Nemesis waits. Let noble architecture be your first consideration, but practical use should follow closely in its wake. It is enthusiasm which alone will ensure the architect's retaining the love of his art and a lofty ideal amidst these practical difficulties and immense responsibilities inseparable from his profession, and that will enable him to do his duty not only by his employer but by the nation. Therefore I say, foster enthusiasm and guard its door, for from it are the issues of the life of your art. An architect is not acting squarely by his country if he puts up hideous eyesores, or insanitary or inconvenient buildings. It should never be forgotten that, if our buildings last, on the architects almost more than on any other workers will depend what verdict may be passed in the future on the character, artistic taste, culture, intellect, and nobility of the British Empire of the time—whether we shall be reckoned by posterity as having been one of the greatest nations the world has seen, or as a small-minded, sordid, uncultured, and superficial race. For these are exemplified by our architecture.

But one can only endeavour to act honestly and zealously according to one's capacities; everyone is not gifted with the highest talents, nor can all expect to be Michael Angelos or Giulio Romanos. Therefore never let failure damp your ardour; it is the best general who makes the fewest mistakes, but all must make them at times, so be not disheartened by errors or inexperience; only let them spur you on to further and nobler effort.

The true architect must ever aim at the highest ideal if his work is to live, and with the greater knowledge and means of learning in this enlightened age it is possibly within the power of some gifted ones to attain approximately in some instances to their ideal. Be careful, therefore, what your ideal is. It should ever be beyond your best efforts. As Browning says—

> A man's reach should exceed his grasp,
> Or what 's a Heaven for?

As architects the uttermost powers you possess should be exerted for your art; they are not given to do what you like with, but to use for the benefit of others, in everything however small, and even though the work be not what you may consider sufficiently interesting to call for the highest endeavour. You cannot be waiting always for a great opportunity to exert yourselves. I came across the following words the other day, which I will leave with you as worthy of thought, for without some such sense of moral responsibility as is implied in them your work in life as architects or men will be deficient in quality: "Our task in this life is to employ to the uttermost that human faculty, that human talent which has been given to us, and not to let it wait for some exceptional moment in which we shall probably never find ourselves, or we may die without ever knowing or dreaming what lies in the capacity of everyone of us to be, to dare, or to do."

REVIEW OF WORKS SUBMITTED FOR PRIZES AND STUDENTSHIPS 1900,

WITH WHICH IS INCORPORATED A PAPER READ BEFORE STUDENTS OF THE ROYAL ACADEMY IN 1885

ON SOME PRINCIPLES AND CHARACTERISTICS OF ANCIENT ARCHITECTURE, AND THEIR APPLICATION TO THE MODERN PRACTICE OF THE ART.

By G. F. Bodley [*F.*], A.R.A., F.S.A., *Royal Gold Medallist* 1899.

Mr. President and Gentlemen,—

I HOPE I shall be pardoned if I do not to-night dwell at much length on particular designs, or on particular drawings that were exhibited in the neighbouring rooms. It seems to me that what little time we have to-night will be best spent if I offer you some few remarks on the general principles that appear to have guided architects in the great days of our art. For these remarks will be addressed to the students of this our Institute. Not, however, but that we are, or ought to be, all learners, as has often been said.

First let me say to you, students, whose work has been recently seen by us, and I hope visited by many, that I was scarcely prepared for the treat I had in looking through your various and beautiful delineations of ancient work—work that brought back many pleasant old days before one—days of one's travels in Italy and other Continental countries, and lastly, but not the least enjoyable, in Old England, with her beautiful and noble churches and her many delightful and stately old houses.

What days of enthusiastic and profitable enjoyment were brought back to one by the remembrance of the times that one spent in the presence of architectural works that commanded one's utter respect and admiration—days spent in solitary meditation, or in company with old friends, now passed away, while the enduring works remain. Well, students, we must pass on to the mention of some of the exhibits that your year's work has given to us—though I shall do so rapidly and slightly, the rather to pass on and offer some remarks on the principles that I think should animate our designs.

Let me take the drawings sent in for the Owen Jones Studentship first. Five were submitted. The prize has been won by Mr. Geo. A. Paterson, and medals of merit given to Messrs. J. B. Fulton and J. Hervey Rutherford. Besides these Mr. Cummings and Mr. Greenslade sent specimens of their work, which I admired. They are careful drawings of well-selected specimens—some, no doubt, of finer quality than others, but all of them instructive for decorative work of this kind. Now, this Owen Jones prize is an important and useful one. I am glad that so many of you went in for it; more, I believe, than in other years. The whole art of colour is a most interesting one. Think how Nature teaches it everywhere. The pale blue sky and the fuller tint of the far blue hills—the thousand tints of green of the grass, and the trees and the foreground, jewelled with flowers, as if with sapphires and pearls. In all the great days of our art colour played an important part. The Greeks stained their white marble and touched it with azure and gold. Mediæval work, as we have seen in the many examples you have given us, was full of colour. Colour is, indeed, one of the fairest of the handmaids of architecture. To recur to Nature, have you ever observed how she contends with ugly colour, subdues it, for it always conquers, and sets it right? It is a standing miracle!

Naturally many of these drawings are copies of the painting that remains on Norfolk and Suffolk wood work, on the screens and the roofs there. For there was a great school of decorative painting in that part of England. It was derived in great measure from Flemish work. Now, in these eastern counties there seems to have been two schools of painters—the one quite English and the other deriving its inspiration from Flanders. The latter came from the land that produced Memling and Van Eyck. Sometimes, no doubt, crude in drawing, and without much beauty in the faces, this great Flemish school was delightful in colour—richer, indeed, in that respect than Italian work with all its refinement and grace of expression. Such old work is rapidly fading away and perishing, and much has been ruthlessly destroyed. I hope that such drawings as you have given us may save something of the beauty of old work as examples for us. All architectural students should study colour, and learn its harmonies, as you would those of music. Though all of us may not have a sensitive eye for colour, yet a good deal may be learnt.

As architects you should know the tints of all the marbles that can be got nowadays, and learn to arrange them in shafts and friezes and pavements, harmoniously or in agreeable contrast. It should be all done with breadth of effect, for that is essential for such work.

Next I would speak of the drawings submitted for the Pugin Studentship.

Naturally Gothic architecture of our own country has been selected for delineation. Mr. James M'Lachlan has the first prize; Mr. E. W. Turner and Mr. J. A. Woore take Medals of Merit. Mr. M'Lachlan's drawings are excellent. His drawing of the vaulting of the choir at Christ Church, Oxford, is most able, and that also of the Shrine of Edward II. Mr. E. W. Turner's drawings of Peterborough Cathedral are very painstaking and good. Mr. Forbes, Mr. Raine, and Mr. Pearson have done well. I do not think it is of much or any use criticising drawings—as such. No doubt some surpass others in draughtsmanship, and some select their subjects more wisely than others. But the very merits of the old work seem to withdraw criticism and to silence the critic. This is not a drawing-school. It is one for the study of architecture in all its many phases. And here one word as to drawing—I must remind you that, useful and interesting as is that art, it is not design. They drew but poorly in days when they built magnificently. As architects, when you have to design, you must set your heart on your building, not on your drawing.

Your building is to be for all time—your drawing but the thing of a day. And here let me advise you, when you get your first opportunity of designing a building, to shut your eyes, and, with your mind's eye, call up the vision of the edifice as entire and as complete as it will stand. Not only the mass but every detail must be there visible—perfectly visible to your mental vision. Then, with eager hand, careless of how your drawing looks, put your perception on paper part by part and detail by detail. You will know instinctively what each moulding should be, what each capital. You have *seen* the building; it has stamped itself upon your imagination. Here and there you may suppress an idea or control a thought, finding it is not wanted, or, if used, it may jar with the conception of your mind.

But this seeing the whole building, complete and entire, is what you *must* do. Of course you will have had to acquaint yourself before this with all the requirements and the possibilities—the site, the surroundings, and the materials you have to use.

Then, having informed yourself on these necessary details, it is for you to create that vision that I have spoken of—that building in which every single detail, as well as its proportion, its colour, its feeling, has been present with you. The man who can thus conjure up his vision and make it his own is the powerful architect.

Yes! But what if that power is not controlled by principles of beauty—of a harmony with Nature—of breadth and unity of effect—of dignity and of truth? There are architects among us who have a power of the kind I mean. It cannot be denied. They stamp a character, an animus on all they do. It is evidently *their* work. But, alas! alas! is that character one of beauty, of refinement? Is it consonant with the suavity of Nature? Are there restraint and reserve? I fear in many cases there are few, perhaps none of these qualities, but only that of a vulgar display and unmannerly strength. The opportunity is lost, and another building added to the many that we would rather be without. There has been no restraint, no refinement. Now this reserve is a great quality, but it has its dangers too. With this restraint do not neglect beauty. Do not belong to that school the members of which almost seem to worship the ugly. Put aside all vulgar display, but imbue your building to your utmost with refined beauty and restrained power. Little and infrequent touches of beauty, if they must be few, grafted, as it were, on to a well-proportioned fabric, will give a building a tender grace, and it will be a delight to all passers-by. Be not afraid of beauty and richness when you can get it. Did the civilised ancients worship the ugly? Uncivilised barbarians may have done so; but it is not for Christians, whose Master said "Consider the lilies of the field" in their arrayed beauty, to be worshippers of the ugly. Pardon me for dwelling thus long on this point. I think there is a real danger. For some seem to mistake sterility for simplicity, and gracelessness for grandeur. Let your manner be as graceful as your expression is sincere. When you have the opportunity, imbue your building with a poetry of its own. That can be done even in the simplest work. In great ones you can endow them with a poetry that may be Miltonic. How delightful is the expression alike of the simplest old stone-mullioned and stone-roofed house and the stately Elizabethan mansion!

With regard to the designs for the Tite Certificate, I am disposed to be more critical than I have been. There we have a somewhat unusual idea, for towers are not usually isolated. But let that pass. I fear I miss in most of these designs that indescribable charm, that picturesque feeling that one sees in so much old work. I had not time, however, to examine them very carefully. I am rather doubtful about the effect of most of them, if they should ever be carried out. They struck me as wanting more idea and greater consideration, and more freedom of design. The design marked "Sphinx" has a good idea in its sort of embryo pilasters at the corners, somewhat original, I think, and I can conceive their giving a suggestion of a refined concave shape to the tower that would be pleasing. Mr. Percy Nobbs's sombre perspective does not do justice to his design, which looks better on his elevation. It no doubt has merit.

I was a good deal interested in the design for a Spiral Staircase. Mr. C. E. Varndell's design is able and carefully delineated, and I was pleased with the late Gothic design bearing the motto "Tiny," and consider it good.

In the Measured Drawings I am glad that Mr. James B. Fulton's drawings of St. John's College, Oxford, are awarded the Silver Medal. They are very good drawings of a most interesting place. The garden front, built, I believe, by Archbishop Laud, has a wonderful repose, thoroughly collegiate in character. Mr. H. Inigo Triggs's drawings of Raynham Hall are good. It is very instructive to a young man thus to carefully study, measure, and delineate a whole house that has, like this one, character and interest. It would be a good example to follow in other years. Old houses get so altered, and are so frequently burnt down, that it is a satisfaction to see them drawn out to scale.

The Soane Medallion.—Here I must repeat something of what I have said in regard to the Tite Prize. I cannot but feel that something better might have been done. Mr. Power's drawings are very good. I should criticise the outline of his dome. I thought the design by "Pomegranate" was broad and simple in its treatment, and would be effective if built. I suppose the competitors were rather tied as to style.

In conclusion let me make a few more remarks on the principles and characteristics of architectural design, those that are common to all styles of architecture.

[Mr. Bodley here read some extracts from a Paper read before the students of the Royal Academy in 1885, which has not been hitherto published, and which, with his kind consent, is printed here *in extenso.*]

ON SOME PRINCIPLES AND CHARACTERISTICS OF ANCIENT ARCHITECTURE, AND THEIR APPLICATION TO THE MODERN PRACTICE OF THE ART.

I am to speak to you of some principles and characteristics of architectural design which may, I think, be usefully brought before you for your consideration. My remarks will be but suggestive, and will embody ideas which you may work out for yourselves, at greater length, in your researches into the nature and the history of ancient architecture. They will be, for the most part, principles and characteristics common to all styles, rather than those peculiar to any.

It is no insignificant subject that I would bring before you. Think of the long story of the great works of architecture in the past. What a history it is! Not to look further back, let us think of that marvellous time when Greece, as it were, brought order out of the chaos of barbaric work, and, suddenly, became the land of all that was beautiful in art—art with its sculpture portraying nature, and expressing the life of nature, not only in its highest phase, the portraiture of ideal perfection of the human form, but also in the delicate beauty of carved ornament and artistic detail. Then on to the work of the Romans, massive and sturdy, lacking, indeed, the grace and tenderness of the best Greek work, but eminently impressive and manly, and superior to that of the Greeks in construction, inasmuch as the round arch was a more noble thing than a straight beam of stone.

Then, the darkness before the dawn—through the many gloomy centuries of barbaric work; and then, to look only at our own land, the gradually refining and enriching work of the Norman; the effect of the creation of Gothic, and the revolution that its pointed arch brought about—the almost Greek-like work of the thirteenth century, full of religious feeling, hardly, indeed, seen at its best in England, for it was more advanced and noble in other countries—nevertheless, replete with growing beauty and interest amongst us. Then the great time of the fourteenth century; when, for refinement of design and beauty of detail, our English architecture was second to that of no other country.

Then the fifteenth-century work, the very flower of the Gothic manner, with its development of the kindred arts of painting, of sculpture, stained glass, embroidery and textile fabrics, works all partaking of architectural character.

And then the Renaissance, with its great artistic skill and exuberant richness, with almost lawless beauty, with some lack of restraint and a certain impatience of authority.

We may well review the varied images which such a vision calls up.

I shall not weary you by reciting any long list of examples of the great works of the great past, or by pointing out their merits—you should know them well—but rather speak of some principles of the art that may lead us to see the shortcomings of our modern works, for their possible improvement. For we are not here to recount the great works of the past in our art, but rather to try and learn some lessons to be derived from the principles such examples afford. Before doing so let us, briefly, look at the building of the present day. There is little we can call architecture.

Where in our works, I would ask, are the architectural influences that would tend to educate the people?

Look at any of our new towns where there is not the presence of old buildings to redeem the general aspect of ugliness and vulgarity. It is not that the houses are merely destitute of ornament; there is the presence of vulgar and ugly ornament, so-called, in plenty, sometimes, indeed, in heavy and tiresome profusion.

The shapes and proportions of the houses seem to have come by chance and without design. The ugliest materials have been used, bricks of the poorest colour and of ungainly size, the roofs covered with cold-looking blue slates, and of too large dimensions. The details of the exterior, throughout, without interest, delicacy, or refinement.

But I have sketched enough of the outside of the kind of house which it is a positive pain to enter, so far as one's artistic perceptions are concerned. Inside we find the same poverty or vulgarity of design everywhere. The meanness of stained deal seems to have been delighted in; or, if it could be afforded, that ugliest of all woods "pitch pine," with its coarse grain and hot colour. In colour, in form, all is without beauty. Nor am I thinking so much of those unhappy new towns amongst us, which are devoted, I had almost said doomed, to manufactures and industrial works, where the sky is darkened and all nature disfigured, where the enjoyment of any art is almost impossible. I am thinking rather of modern watering-places—and the like—places devoted to leisure and to pleasure, chosen for their brightness of climate and beauty of scenery, but presently made hideous by a very nightmare of badly designed and worse constructed buildings. In such new towns as I am speaking of the inhabitants live surrounded by these buildings, to the great detriment of all artistic perception. Or look, again, at our London houses of a slightly older, and better, period. Our "long, unlovely streets" are without interest or dignity; a uniform dulness, at best, prevails, with but few exceptions. You may pass through many miles of our London streets without seeing one redeeming building, or even a part of any such building. There is a uniformity of dreary ugliness alike in Camden Town and Belgravia. Whitechapel is better: there are some *old* buildings there. Is not all this a satire on our civilisation and on our culture?

It is easy for you in these days to compare and contrast such modern buildings with ancient ones. If you have not travelled, nor even seen much of old places in England, drawings and photographs will have, broadly, shown you the contrast. And what a contrast it is! Now in what does this contrast principally consist? It is a difference in kind, not one merely of degree; the whole feeling, the *animus*, is different.

And here I am brought to speak of some of those principles and characteristics of architectural design which I would bring before you.

They are:—Refinement—Concentration—True Use of Detail—Symmetry—Economy of Material—Contrast—Avoidance of Extravagance of Manner—Suitability—Harmony—Colour—Work founded on that of the Past—Consonance with Nature—and, lastly, Truth.

Now, if there is one principle in the practice of architecture in the present day which is chiefly wanting, it is, I think, the lack of refinement of design.

What is the history of architectural art but the history of refinement in the art. We have briefly glanced at this history in our own land. What was the one principle that led on from century to century, from style to style, but that of a true artistic feeling, the desire for refinement. Nature, our great guide, never stops in her refinement. We cannot gauge the infinite delicacy of nature, nor her redundance of life and its variety. Now it is in refinement for architectural work that this expression of life is chiefly shown. According to the material and means at command, there should be the careful expression of artistic power to bring out, to the utmost, the expression of *life*.

This expression is a great principle of all art, and one to which limits can hardly be assigned. It should animate all your work. Every detail, not only as in the carving of natural ornament, however conventionalised, but in architectural mouldings and the like, should express this, which is the highest gift of nature—*life*. You see it in all good architectural work—in the branching vaults, and the graceful clustered columns from which they spring, in the steady, sturdy, but thrusting buttress, in the varied modelling of carved ornaments, or even in the mouldings of a cornice or of a stringcourse. Whatever in architectural work is endowed with the expression of death is bad art. Good art, on the contrary, is ever imbued with the expression of life. Look at a bit of decorative carving, it may be of the most conventional kind, as the so-called "honeysuckle" of the Greeks, or carved leafage of one of the great periods of Gothic art, and you will find this expression of life in the nervous curves, in the strength of the sturdy stem, and the delicate reaching or twisting spray. The whole drawing and modelling, as well as the execution, express life. You may see this even in the common utensils of daily use. Compare a Greek cup, of the simplest kind, with its subdued, refined, but nervous and animated curves, with the similar vessels we may see amongst us now. The one is instinct with the expression of life, the other is dead as the metal or the clay out of which it was formed. It is thus that man, into whom was breathed the breath of life, has, God-like, imbued his work with the expression of the Divine attribute.

Now, it is refinement of design that is such a great aid in giving this expression of life. It is not against this principle that much of the best architectural ornament is conventional, for conventional ornament should ever be imbued with the spirit of nature—with its energy, its repose, its beauty of detail and its breadth of effect.

You can work out this idea of refinement for yourselves in many interesting details—as in the refinement of curves, so remarkable a feature in our fourteenth-century Gothic—in mouldings in all the great styles, giving refinement in the effect of delicate shadows; and in many other ways, as in the refinement of decorative colour, where gradations are gentle and colours are delicately contrasted—not, however, in any work in a manner indicative of weakness or incapacity; for refined work in no sense denotes weakness, nor vulgarity strength. True refinement, rather, denotes restrained power.

Nor is it in details only that the principle of refinement is of importance. The whole building, in its lines and mass, should have the same expression, one rather of reserve and power controlled than of any ostentation or display.

It is these expressions which give the charm to so many ancient works of architecture. *They are the principles of Nature.*

I have spoken of the advance of refinement in the successive styles of the Gothic period. The same history occurred in the great Classic styles. It would seem that while an art is a living and healthy one, it will advance, and, like the intellectual or moral condition of man, it will progress. Alas that a time should come when it begins to decay, and at length becomes moribund!

The English woodwork of the fourteenth, fifteenth, and sixteenth centuries shows a school of art of a very remarkable character. There is the utmost refinement of detail in delicacy of moulded work and in most able carvings. It was hardly equalled by any work of the same character abroad. It is work well worth your close attention and study. Comparing these beautiful works with much modern woodwork, one cannot but miss the element of refinement. In the old work you will find the traceries were more or less elaborately moulded in different orders, while a modern and a very crude fashion of the day merely pierces certain shapes, in a very elementary manner. It is but childish work at best, and is an instance of what one cannot but call the barbarism of much modern work, contrasting with the refinement of the ancient manner.

Let us glance for a moment at the reverse of this element of refinement. Look at what has been called the "Victorian style." I do not mean work designed, in an honest spirit, to meet the requirements of the times, that which tries to catch the true spirit of old work, but that shallow, conceited, and futile attempt to outdo the works of the past by coarseness and what is vulgarly called "go" in design. It is a manner that can have no lasting influence, one would hope, and we may dismiss it as out of court, except to point a moral. It is a manner the very reverse of that which I would lead you to follow—that of a true and noble refinement in your art; that which you will find, in different degrees, expressed in all noble ancient architecture.

Another principle on which I would touch is that of concentration of ornament, especially for our larger buildings. It is one too much neglected in modern architectural works.

For the enjoyment of richness and beauty of ornament there should be a well-designed concentration of it. The eye wearies of, and the mind fails to be interested with, a monotony of richness.

Design your building in good proportions, that is, with the proportion that has an expression, suiting the character you wish to give your work. Then enrich the chief and most important parts with carefully designed ornament rather than sprinkle the whole with it. Here, of course, the scale of the building dictates the character, and it is no fault for a small one to be enriched all over: it is, as it were, a detail itself. The surrounding buildings may give the necessary effect of contrast. But for large and monumental works you will find this concentration of ornament a sound and judicious principle. It is one of the characteristics of the best old buildings.

Another principle of which I would speak is that of the true use of detail. Now the use of detail is not so much in order to show variety or beauty of design, but that it may enhance the expression, whatever that may designedly be, that is to be given to the whole building. It is surprising how the use of detail, skilfully dealt with, may add scale to a building and enhance its general effect. It is a great but manifest error to suppose that by boldness of detail you make your building look large. The reverse is eminently the case. This is obvious; nevertheless, much modern Gothic work, and not work in that style alone, has been ruined in effect by largeness, if not coarseness, of detail. When your mouldings are large their curves should be especially delicate and subdued. The delicacy of the shadows prevents the effect of any coarseness.

Not that it is only detail which, carefully used, gives scale to a building. The multiplication of parts is an arrangement of much use for this purpose. You know how skilfully this was done in mediæval and in Renaissance buildings.

The study of the best-designed ancient works will make the intention very apparent. It is a point, again, that you can work out for yourselves, in studying such buildings. Compare, for example, Milan Cathedral with our Westminster Abbey, or with York Minster or other great Gothic churches. To give scale by breaking up a wall into stages, as by arcades and the like, is of frequent occurrence, and is of much effect.

Another principle on which I would touch is that of symmetry or balance in design. It is one, for the most part, applicable and of chief use for large buildings and those of monumental character; nevertheless, a house of moderate dimensions, planned on a symmetrical arrangement, may have a repose and a dignity fitting many sites. Our large Elizabethan houses owe much of their effect, externally, to this arrangement. It is not a Gothic idea; nevertheless, even for this style a forced irregularity is always to be avoided. There is no plan for a large house, standing by itself, more dignified and quiet in effect than one with three sides of a quadrangle—the entrance with its high porch marking the centre, and bearing, it may be, an enriched panel with shield and other sculptured ornament. The two projecting wings may be of more or less projection, as circumstances dictate.

In these symmetrical designs occasional variation from exact balance may well be brought in, as in the somewhat varied positions or sizes of windows and the like. The general balance may be kept, but, like an unexpected note in music, the variation in no way destroys the general effect of harmony. Symmetry of design denotes care and pains on the part of the designer. It is a courteous manner, and has much to recommend it. Certainly it is a principle founded on nature. It was in constant use in old days.

Another point on which I would briefly touch is that of a nice economy in the use of material. It is again another point of refinement. The almost brutal strength and ponderous use of material of the Egyptian work, especially as in the Pyramids, has an unpleasant sentiment. Contrast this with the great Gothic buildings, in which (*with no economy of thought or of skill*), through delicate ribs of curved or straight stone, the weight of the hanging vault is held, as if by magic, and passed down into the ground—all with the nicest economy and without any undue waste. Each member does its work. It is Christian liberty and carefulness, contrasted with Egyptian slavery and its waste of power.

Roman work had some of this Egyptian-like waste. But I must not enlarge on this point, which opens out a wide field of observation; one word, nevertheless, I would add, and it is this. Engineers make their nice calculations, of less and more, and tell us this or that "will stand." But good architecture is not only "built to stand," it is built to last from generation to generation. It is no waste to build in such a manner that the eye and the mind are satisfied, that centuries may see the building as we see it now. That if but properly tended, and not cruelly dealt with by the more ruthless hand of man, the gentle, slow, natural decay of time will leave the inheritance well-nigh untouched.

Such strength, combined with a nice economy, should be our aim in designing buildings.

Another principle I would speak of is that of well-contrasted work. In all the best architecture you will find a noble simplicity of design, due breadth of surface, contrasted with delicate detail. Neither has its full value without the other. How well the delicate Gothic traceries and niche work, and the lines of the richly carved cornices, contrast with the broad surfaces of the massive buttresses and the smooth ashlar of the walls! It is thus in nature you may see the delicate foliage and the fragile flower contrasting with the buttress-like rocks, smoothed by the hand of time.

Some of the best effects of Gothic work are obtained by the use of thick walls and small detail, as in windows where the broad splay is finished by a slender shaft, giving a fine line of light and a delicate shadow, contrasting with the uniform light on the wide breadth of surface of the splayed jamb. Here, again, you can work out this principle for yourself in many ways, both as shown in examples of the past and in designing new buildings or their details. In many churches in the South of France we see the capitals throughout, both large and small, elaborately and richly carved, while the rest of the building is of the sternest simplicity. The capitals form, as it were, rich bands, contrasting with the plain walls and piers.

Again you will find that the whole practice of mouldings is derived from the sense of contrasted light and shade. Vigorous, at times even harsh, as in some early Gothic work, the system of mouldings became gradually refined to the most gentle gradations of light and shade, the simple roll moulding eventually turning into what is termed the "wave moulding" with the most delicate effect of light and shade on its surface.

Or, again, in carved work of the great times, the delicate lines of light on the ridges and the edges of the ornament; the half shadows, tender and slight, on which the ornament seems, as it were, to rest; then the sudden deepening and darkening of the background, to throw out, in strongest contrast, the chief points of the ornament into greater light, to rule over the rest. Well considered, and ably executed, contrast is seen everywhere, full of tender grace or decided vigour.

The carver has delighted in the effect nature affords everywhere, where there is light to see its subtlety. It is our loss that here, in England, our dark days are so frequent. The want of light has, no doubt, a depressing effect on art. Let us the more carefully enlighten our mind's eye with the thoughtful contemplation of the works of other and sunnier countries, and of brighter days of art.

Another suggestion that I would make is a negative one—the avoidance of extravagance of design and manner. For example, avoid extravagant proportions. One has seen too much of this of late in Gothic work. A shaft only two or three times its diameter in height is surmounted by a capital out of all proportion to that shaft. It is an ugly affectation and in no way commendable. It is an exaggeration that becomes a caricature of good art.

There is one kind of strongly marked proportion, however, that we need hardly fear to carry out in these days. I mean that of considerable height. The controlling exigencies of economy too often prevent our churches, for example, from rising into stately and inspiring proportions.

You know the high proportion of that, perhaps the most beautiful of all Gothic churches in the world, Westminster Abbey—the most beautiful as regards the architecture of the interior.

The proportion of Westminster Abbey, that of three squares, is excellent, and without any undue exaggeration of height.

The extravagance of manner I have spoken of more often lends itself to stumpy proportion, without grace or beauty. It is, like other extravagances, to be avoided.

Another principle I would bring before you is to suit your design to the place it is meant for, and to the surroundings among which you are to build.

With our old buildings in the country one often sees an instinctive harmony with the sentiment of the aspect of the natural scenery, or, it may be, a wise contrast with it.

It was not apart from this refined feeling that for an old Gothic church, built among hills, you will generally find a low broad tower, with an affinity for the masses of surrounding scenery—while, on the other hand, on the long, low, level lands the pointing spire will have been lifted in contrast to the horizontal line of the plain—a point of relief which the traveller's eye may rest on, as he travels through the monotonous level country. In towns you may take pains, in some way, to assimilate your building to those of neighbouring ones of former times, if there be any of sufficient interest to command such respect.

It is to our loss that so many towns, in which we may have to build, are destitute of any character with which we can harmonise our work. Nevertheless, it should be done where possible, not only in the use of local material, but in designing in the local manner, and in harmony with the surrounding buildings. One sees examples of what we must call "bad manners" in this way. The surroundings have been ignored.

And here let me say that we need not go abroad to find a style in which to design buildings in England. Let us keep to the *genius loci.*

Both in Gothic and in Renaissance buildings among us, there has been too much copying of a foreign manner, unwisely imported from the Continent. Our own English architecture is second to none on the Continent for beauty and poetry of design. If abroad the architecture is more grandiose, yet it often lacks the refinement and the poetry of sentiment of our English work. Though "art speaks the tongue of every clime," yet, in a sense, we may have a patriotism in our art. You know how long a list of admirable English works one might enumerate : each county with its hundreds of more or less beautiful churches, and often still more beautiful remains of ruined abbeys ; each city with its more or less stately cathedral ; our Universities of Oxford and Cambridge, places unique in the world for venerable collegiate buildings ; our great historical mansions, Haddon, Burleigh, Kirby, Fountains Hall, Hardwick, Longleat, Bramshill, Montacute, Temple Newsam, and others ; lastly, the refined and simple beauty of our old homesteads, and even cottages, on many a countryside. Let us be loyal to the traditions of our beautiful English architecture.

Another principle is an obvious one—that of harmony, not only of style, but of character and feeling, throughout a building. No eclectic school which mingles styles incongruously will ever be long-lived or successful. The result, if not one of continuous discord, affords but occasional harmony. It is true that certain styles, as Gothic, lend themselves to strong construction, while Renaissance may be more consonant with great richness and delicacy of detail, as, for example, in plaster-work and the like ; but there is a risk of discordant character. It is better not to attempt any such mingling of styles in a complete work, however good the effect of different styles, combined maybe in an historical building which has been added to from time to time. The mind is satisfied with such an historical building, but it is irritated by the needless conceit of combined styles in a new one.

If you look at any complete works of the great periods, you will find that they have a unity of feeling and a breadth of effect stamped upon them. Look at our Abbeys of Westminster and Tintern. I mention these, for you know them well. The same character is given to the whole building in a marvellous degree. Each building expresses in its own distinctive manner the sentiment desired, and there is a true artistic breadth of effect and of idea. You will find this so in all complete buildings of the great periods. They are interpenetrated with one idea, though there is the utmost variety of detail.

Another and an important part of an architect's work is connected with *colour*, whether in the use of marble or other constructional colour, or in painting.

A fine eye for colour is a natural gift, as much as a fine ear for music, but the love of good colour may, no doubt, be caught from the teachings of nature and the great schools of painting, chiefly those of the fourteenth century and later on. That there was a great school of decorative painting in England in the fifteenth and sixteenth centuries is seen by the painted roofs and screens remaining. Those without sufficient knowledge are apt to speak of the colouring of the Middle Ages as crude and inharmonious, or at best as of little artistic value. There can be no greater mistake. The wall-painting has chiefly perished, but enough remains on woodwork to show how refined and beautiful the works of decorative painting were. In all the great periods of art there was, indeed, the keenest delight in colour. Take alone, for example, the stained glass of the successive centuries of the Middle Ages. It is an important part of architectural decoration, especially of churches, college halls, and similar places. Look at the deep-toned glass of the twelfth and thirteenth centuries, the gradually refining glass of the fourteenth century—silver setting, as it were, of jewels ; the figures rich and splendid in colour. Then the still fairer glass of the fifteenth and sixteenth centuries—figures, as of painted statuary, of rich but subdued colour, standing in tabernacle work, of wrought silver touched with gold, the delight of all beholders. Is it for us to think lightly of the colour works of the Middle Ages when we, in these days, have filled nearly every one of our cathedrals in England, and most of our churches, with glass so crude, so harsh in colour, that to see it for a moment is a pain and a shock to all our artistic feelings ?

In this beautiful art of glass-painting, however, one begins to see real improvement in the works of some, though but few, artists.

Before I pass on to other matters I would observe that the history of glass and other painting shows the same story of progress in refinement (pardon the refrain) as we have seen took place in building. The early work was powerful, but crude in colour, the later ever becoming more and more refined; and this so much so that presently the whole scheme and idea of the decorative treatment of the building was gradually changed. For the early building had its walls white, with but little decoration, and its windows of dark richly coloured glass.

In the time of the fifteenth century this scheme of colour was completely changed, and a nobler manner prevailed; the walls were painted with figures and subjects in dark rich colour, of the beautiful type of full but harmonious colour that we see in many old German and Flemish pictures; and the windows were, for the most part, of silvery white, with but little, and that subdued, colour.

It was a complete revolution. It was one towards refinement.

Let us turn for a moment to a very different branch of this subject of colour. However poor the architectural character of our houses may be, beauty of colour may be obtained for our rooms. There is not enough intelligent interest spent on the subject of the decorative effect of our houses. I cannot but express the hope that they may be made more beautiful in colour, and that our rooms may show not only a jumbled collection of old things, however beautiful these may be in themselves, but that intentional design and harmonious architectural character may be given to them. In the modern decorative treatment of rooms, even those of some dignity, one too often sees mistakes of the most evident kind. For example, it is the frequent modern practice to colour the cornice of a room as if it were part of the ceiling; so if the ceiling is white the cornice is white also, though the walls and woodwork be of colour. Now surely the cornice is the crown of the wall, and not a part of the ceiling. The architectural value of a cornice in a room is to soften off the harsh line that we get without any projecting moulding. This effect is obviously lost if the cornice is coloured like the ceiling, and not like the wall. I would just say, before quitting this part of our subject, that while we now often see "dadoes" introduced, the use of the frieze is too seldom adopted. Yet it is a far better effect to have a well-designed frieze and no dado, rather than to have a dado and no frieze. The frieze, and not the dado, was the earlier and finer arrangement. Let me say, in passing, that we should do better in our domestic work to follow the style of the Renaissance rather than that which is called "Queen Anne," and which is a very inferior manner at best.

Again, there is a fashion for a papered dado. This brings out with undue prominence the poor, thin line of the dado moulding.

Now this dado moulding or "chair rail" is, as it were, the cornice of the dado, and the whole should be of the same colour. Above this dado moulding there may be a wall-paper of good pattern and colour. Such a paper is best when it is of two or three shades of the same colour, and the spotty and unarchitectural effect of a variously coloured pattern is avoided. Wall-papers were the successors of damask silk hangings, which were usually of one colour, or different shades of the same colour. These silk hangings, it is true, were the successors of tapestry of varied colour, but the pictured scenes of tapestry take one into a higher and altogether different kind of decorative effect. There is nothing in common with tapestry in them, except that both are for the clothing of a wall.

Again, one sees other palpable mistakes of colour, such as the use of the "black pointing" of brickwork. We need not add to the gloom and dinginess of our buildings by its use.

But what I would chiefly urge, on this subject, is that you should not think decorative art in any way beneath your serious attention. Here, again, look at the works of the past and of the great schools of Europe. They will be of more use to you than the imitation of Japanese or Chinese work, the fashion of the day, however ingenious it may be.

Another principle is the founding designs on the works of the past.

Sir Joshua Reynolds said, "The more extensive your acquaintance is with the works of those who have excelled, the more extensive will be your powers of invention, and, what may appear still more like a paradox, the more original will be your conceptions."

This is, I think, eminently true of architectural design. You may well found your design on some previously executed work that has won your respect and admiration; but you make it your own, your mind's eye seeing it, thus or thus, different, wholly altered, from that which produced the idea. It is thus that art hands on, in the tradition of art, the spirit of it, which is immortal.

Another principle is that of harmony and consonance with nature.

We have, incidentally, spoken of nature as the guide in all art.

It should be eminently so with the creative art of architecture.

Though our art, like music, is not an imitative one, yet its characteristics should be those of nature, in the spirit, though not in the letter. It is the strength and the delicacy, the refinement and the richness, and the other great attributes of nature, which we should endeavour to embody in our works, rather than any exact imitation.

It is thus that art should be consonant with nature. Wordsworth wrote,

> "To the solid ground
> Of nature trusts the mind that builds for aye,
> Convinced that there, there only, she can lay
> Secure foundations."

In our art, from the rough, rock-like foundations to the highest and most delicate pinnacle, all should be in harmony with nature and her work. It is the law for all art, at once the law and the gospel.

Time suffices not to speak of other principles of our art, and yet there remains one great and leading principle of this, and all art, that which should indeed be first, the principle of *Truth*. Let it have here, as in a procession of state, the most honoured place, and be the last-named of our principles.

Of truth, as expressed in architecture, much has been written, and written well, more especially by Mr. Ruskin, to whose teaching we owe so much in the whole field of art. Truth is an essential element of good art. I need not dwell on this part of our subject; nevertheless, what are many of our new street fronts in the City, and other buildings elsewhere, rising around us, but examples of most untruthful architecture. Iron columns and iron girders are concealed by stone columns and thin stone friezes and the like deceptions. It is an unpleasant and, indeed, a wretched style of building, without truth or dignity. Should a fire try the nature of the work, the writhing columns and the bending girders will soon show that they are found wanting in that first necessity of good building—stability—and the disguise will be manifest.

To conclude, let me say that architecture, and all art, should be animated by some great and leading principle. Religion is the highest. The noblest buildings in the world have ever been those consecrated to her service. We see this alike in the pagan temple and in the great churches of Christendom.

After religion, civil or national dignity should call out the expression of high artistic power. Then the domestic feeling, the house, great or small, built for a family, in successive generations, to abide in, the house that should be handed down as the shrine of domestic honour. And, lastly, honour to the departed, as in sculptured monuments and memorial buildings. For art should be delighted in, not for itself alone, but as the expression, in a lasting way, that can perpetuate the feeling expressed.

Art requires, as it were, the salt of noble sentiment to keep it elevated and pure.

How far any revival of a great school of architecture is possible is a question. That there is a strong archæological feeling for the art is certain. It is an age of travel, and the great works of former days, combined with their historical associations, have impressed themselves strongly on many minds.

The want of unity of feeling, as compared with other times, is one serious impediment to the formation of any school of the art. Is any such unity possible? Is any such school of architecture possible without such unity?

But consider that it is the *animus* with which you design that is of real import; whatever style you are led to work in, let your manner be courteous, your expression that of truth, and your aim to do the right thing for the building you are designing.

No doubt our work as architects in these days is one of difficulty. It is an age of science, not of art; architectural tradition has been cut off, or rather, alas! we inherit a century or more of bad tradition.

We have great facilities, in these days of easy travel, for seeing old buildings. Or, to take the subject of decorative art work generally, our collections and museums are numerous and admirable. Are we to make such use of them as may lead to better designs, and a more intelligent interest, in such decorative work?

Such collections ought to bring about a more healthy state of public taste, and inspire us all with a desire to do good work, thorough work, both awakening interest and cultivating it.

Let us remember that what we may call the "architectural arts" may have a considerable bearing on the industries of a country. Attempts at artistic manufacture have been brought before the public. Are they to lead to better things, or are they only the fashions of a day?

Have enthusiasm for your art, in all its branches, rather than an ambition for your own success, and better work will be done. There are some signs of the dawn of better things amidst the general gloom, and we may hope that a more intelligent interest may yet be taken in architecture, and in things that belong to architecture.

Students of this Institute, if I have in any small degree raised your enthusiasm for your art, these few words may not have been all in vain. You are entering a delightful profession. Make it more and more not only a professional business but a real living Art. Remember, Architecture should be the Queen of all the arts.

G. F. Bodley.

In connection with the foregoing the following two poems by Mr. Bodley are published with the Author's kind permission:—

ARCHITECTURE.—THE MINSTER.

Vast power of the greatest of all arts!
Greatest, for most akin to Nature's work,
And most creative of the works of men!
Thine is the spirit of Creation's work,

Imbued with beauty of the simplest flower,
Instinct with grandeur of the mountain side!
All Nature stoops and yields her service here.
Not this, nor that, is seen but very *life*
Of Nature, breathed in rich redundancy,
That grows into a temple, made with hands;
But, vivified by soul and mind of man,
It stands the very image of God's work.
How many hands have wrought, one mind conceived!
Yet seems it as one great harmonious chord,
Full and complete, that soundeth lastingly
Through all the massive time it shall endure.
Stern storms of heaven may beat against its walls,
The blanching sunlight sleep upon its roof;
Perchance both deem it part of Nature's work,
That needs must be so disciplined by all
Vicissitudes,—as o'er the mountain Dome
Or gloomy clouds obscure or rain-storms sweep,
Or loving sunbeams rest them all the day.
So stands the mighty Fane, and takes its share
Of all, as mountains do, now smiling back
To heaven's smile, then darkening to its frown,
Claiming, and owning, its full share of all.
Now enter in. Ah, words may not express
What heart of man hath yearnèd to conceive;
The finite dowered with Infinitude!

When music, new born, falls on wakening ears,
And grows to fullest consonance of sound,
It, lingering, haunts the mind a little while,
Passing and dying, all too soon, away.
When fair a building, risen, stands revealed—
Music made manifest—it is for aye.
The moving air makes music in the trees,
Whispering and sighing; rising, dying now;
The enduring mountain liveth evermore,
Smiles in the sunlight, frowns beneath the storm,
And stands a felt, though unseen, presence in the night.
So doth the massive Minster; now it glooms
Dim, 'gainst the golden glory of the West;
Anon it kindles, lit from dawning East,
A steadfast vision, clear, articulate.

From *Poems, by G. F. Bodley, A.R.A .F.S.A.*
Lond. George Bell & Sons, 1899.

9, Conduit Street, London, W., 10*th Feb.* 1900.

CHRONICLE.

The Annual Exhibition of Students' Competition Drawings.

The designs and drawings submitted for the Institute Prizes and Studentships 1900, together with the work sent in by past Travelling Students, made up perhaps the largest collection ever brought together in connection with these competitions. Owing to insufficiency of space for their adequate display in the Institute rooms, the use was secured of the neighbouring gallery of the Alpine Club, Savile Row, where the works could be satisfactorily hung, and seen to better advantage than has been possible for some years past. The exhibition included, besides the competitive drawings, a selection from the "Testimonies of Study" submitted by candidates successful in last year's Final and Intermediate Examinations—these comprising drawings by the following:—Messrs. W. H. Ansell and T. J. Byrne (*December Final*) and Messrs. L. L. Bright (*June Intermediate*) and C. E. Varndell (*December Intermediate*). Nearly nine hundred persons visited the exhibition during the eleven days (January 16–27) it was open to the public.

Prize Drawings for Exhibition at Allied Centres.

The following selection from the Prize Drawings and the Testimonies of Study above mentioned will be sent for exhibition at the chief centres of the districts of the Allied Societies throughout the United Kingdom:—

The Royal Institute Silver Medal (*Measured Drawings*).—St. John's College (3 strainers), by Mr. James B. Fulton (under motto "Unicorn"), awarded the Medal and Ten Guineas.—Raynham Hall (3 strainers), by Mr. H. Inigo Triggs (device "White Wheel"), awarded Hon. Mention.

The Soane Medallion.—Design for a School of Fine Art (1 strainer), by Mr. Cyril E. Power (motto "S. Barbara"), awarded the Medallion and £100.

The Owen Jones Studentship.—Drawings by Mr. Geo. A. Paterson (3 strainers) awarded. the Certificate and £100.—Drawings by Mr. James B. Fulton (2 strainers), awarded Medal of Merit.—Drawings by Mr. J. Hervey Rutherford (2 strainers), awarded Medal of Merit.—Drawings by Mr. Sidney K. Greenslade (1 strainer).

The Pugin Studentship.—Drawings by Mr. James McLachlan (3 strainers), awarded the Medal and £40.—Drawings by Mr. J. A. Woore (2 strainers), awarded Medal of Merit.—Drawings by Mr. John Jerdan (1 strainer), awarded Medal of Merit.—Drawings by Mr. Shirley Harrison (1 strainer).

The Tite Prize.—Design for an Isolated Clock Tower (2 strainers), by Mr. Percy E. Nobbs (motto "Edificaturus"), awarded the Certificate and £30.—Perspective and Elevation (2 strainers), by Mr. W. A. Mellon (motto "Bow Bells"), awarded Medal of Merit.—Perspective (1 strainer), by "Sphinx."

The Grissell Medal.—Design for a Spiral Staircase (2 strainers), by Mr. Charles E. Varndell (motto "Loire"), awarded Gold Medal and £10 10*s.*

Testimonies of Study (20 sheets).—Drawings by Messrs. W. H. Ansell and T. J. Byrne (*Final Examination*).—Drawings by Messrs. L. L. Bright and C. E. Varndell (*Intermediate Examination*).

The Annual Addresses and Prize Distribution.

The Presentation of Prizes and the introduction of the year's Travelling Students took place at the Institute last Monday before a numerous assembly of members and their friends, several ladies being among the visitors. As many of the premiated drawings as could be accommodated were hung on screens round the Meeting-room. The names of the prize-winners will be found in the Deed of Award published in the last number of the Journal.

The President's Address to Students, and Mr. Bodley's Criticism of the Drawings, happily supplemented by extracts from an Address to R.A. students, now published in these pages for the first time, were followed with manifest approval by the whole assembly, the authors being warmly applauded at the close. Sir James Linton [*H.A.*], Past President of the Royal Institute of Painters in Water Colours, in proposing a vote of thanks, said he did so very warmly and sincerely for the extremely able Addresses the Meeting had been privileged to hear. He spoke, he said, as a member of one branch of the Art, for the broad and simple principles placed before them by the President and Mr. Bodley appealed to the painter quite as much as to the architect. The Vote of Thanks was briefly seconded by Mr. Axel Haig, and carried by acclamation.

The Royal Gold Medal 1900.

At the same General Meeting the President made the following statement:—I have to announce that the Council propose to submit the name of the Commendatore Rodolfo Lanciani to

Her Most Gracious Majesty as the recipient of the Royal Gold Medal this year. It is usually the custom to give it to a foreigner about every third year. Signor Lanciani is Professor of Ancient Topography in the University of Rome; he is a D.C.L. of Oxford and LL.D. of Harvard, a Correspondent of the Institute of France, and he has been a Corresponding Member of the Institute since 1894. He has contributed more to our knowledge of ancient Rome than any other writer or archæologist since the time of Luigi Canina over fifty years ago, whose works we have in our Library, some thirty volumes in number. Canina received the Queen's Gold Medal in 1849, more particularly for his work entitled *The Edifices of Ancient Rome.* Should Her Majesty graciously consent to our proposal it will be the second time during Her Majesty's reign that the honour has gone to Italy. Signor Lanciani's first notable work, entitled *Ancient Rome in the Light of Recent Discoveries*, was published in 1887, almost concurrently with Professor Middleton's work on the same subject. This was followed in 1892 by *Pagan and Christian Rome.* These books take the highest rank as guide-books for students of the archæology and architecture of the Eternal City and its neighbourhood.

In 1897 he published a supplementary work of equal value on the *Ruins and Excavations of Ancient Rome*, throwing considerable light on many disputed points connected with the ancient monuments and edifices. Perhaps, however, his reputation as a distinguished and learned student of architecture, archæology, and topography will be mainly associated with another work, namely, *Forma Urbis Romæ*, which has been issued in sections, and is now nearly completed. This is a document of the greatest value; it is drawn to a large scale, in forty-six sheets; and I hope it will soon find a place in our Library.

How great Professor Lanciani's opportunity has been may be gathered from his statement in a preface to one of his books. He says that between the 1st of January 1872 and the 31st of December 1885 eighty-two miles of new streets were opened up, drained, paved, and built in Rome. The archæological significance of this may be grasped when it is learned that no less than 270,000,000 of cubic feet of earth were turned up; and it must be remembered that it is impossible to open up much ground in Rome without something unexpected being revealed.

Professor Lanciani and his colleagues discovered the stratum of prehistoric or traditional times. They found a necropolis older than the walls of Servius Tullius, brought to light 5,000 feet of the great embankment of Servius, and ascertained the sites of fourteen gates, houses, palaces, temples, shrines, parks, gardens, aqueducts, and tombs, whose existence had been scarcely suspected.

The Professor has thrown light on various phases of the life of the ancient city, with a fidelity and charm rarely at the command of the archæologist.

He, like Dr. Schliemann, who received the Queen's Gold Medal in 1885, has earned a European reputation, The Council therefore think Professor Lanciani would be a most worthy recipient of this honour, if Her Majesty will graciously consent to its being conferred upon him.

John Ruskin and the Royal Gold Medal.

The following letters written by Ruskin, in which he declines, and gives his reason for declining, the Royal Gold Medal, have hitherto been unpublished. The formal one to the Secretary was not even read at the time to the general body of the Institute. As nearly thirty years have elapsed since the letters were written, and as the illustrious author has just passed away, there seems to be no reason not to take advantage of this opportunity of making them public. Though their criticism is severe they cannot fail to be of interest; and they are eminently characteristic of the lofty-minded irreconcilable who in his actions came as near putting into practice his own counsels of perfection as is given to a man to do.

Rome, 20*th May* 1874.

Dear Sir,—I have before me your favour of the 25th March, advising me of the honour done me by the Royal Institute of British Architects in adjudging to me the Royal Medal for 1874.

The delay in my reply has been owing to the necessity for prolonged reflection before adopting the line of conduct which, after such reflection, I still find to be the only one open to me. Permit me in explanation of it to state four facts.

1. The tomb of the Cardinal Brancaccio at Naples, which, so far as my present knowledge extends, is the most important example in Europe of the architectural sculpture of the fifteenth century, is at present used as the lumber-room of the church in which it stands; and I found, last month, the folds of the drapery of its caryatides closed by cobwebs.

2. The church of San Miniato at Florence, the most beautiful example of the twelfth-century architecture in that city, has been turned into a common cemetery.

3. As I was drawing the cross carved on the spandril of the western arch of the church of Santa Maria della Spina at Pisa, in 1872, it was dashed to pieces by a mason before my eyes, and the pieces carried away, that a model might be carved from them and set up in its stead.

4. The railway at Furness is carried so near the Abbey that the ruins vibrate at the passing of every luggage train; and the buildings connected with the station block the window over the altar of the Abbot's Chapel; so that nothing else can be seen through it.

These four facts are, as the members of the Institute know, only too accurately illustrative of the general agency of the public, and of the builders employed by them, on the existing architecture of Europe;—consisting in the injurious neglect of the most precious works; in the destruction, under the name of restoration, of the most celebrated works, for the sake of emolument; and in the sacrifice of any and all to temporary convenience.

For the existence of this state of things we, the members, actual and honorary, of the Institute of British Architects, are assuredly answerable, at least in England; and under these circumstances I cannot but feel that it is no time for us to play at adjudging medals to each other; and must, for my own poor part, very solemnly decline concurrence in such complimentary formalities, whether as they regard others or myself. For we have none of us, it seems to me, any right remaining either to bestow or to receive honours; and least of all those which proceed from the Grace, and involve the Dignity, of the British Throne.

May I beg, Sir, that in communicating my reply to the members of the Institute you will convey to them at the same time the assurance of my personal respect, and of the profound regret with which I find myself compelled to decline their intended kindness and courtesy?—I have the honour to be, Sir, your obedient servant,

John Ruskin.

Charles L. Eastlake, Esq., Secretary.

Assisi, 12th June 1874.

My dear Sir Gilbert,—I have this morning received your letter, which adds not a little to the pain I have felt in doing what I know to be necessary in this case. It adds to the pain—it farther assures me of the necessity of my proceeding. That it should have been a friend who "suggested" my name to the Institute makes me bitterly sorry to put this friend in (what however only because *he* calls it so, I admit to be) a ridiculous position. But that the Institute acted under his "suggestion" very much adds to such personal motive of pride as I have in refusing the Medal. Had they offered it me after I wrote the *Stones of Venice*, twenty years ago, I should have gratefully and respectfully accepted it. I now, proudly, refuse it. But I have never—very solemnly I say it—allowed my pride to stand in the way of either courtesy or duty. I very solemnly deny, and wish in the face of the public to deny, and am thankful, *though* pained by it, for this opportunity of publicly denying, that either the Architects' Institute or any other Dominant Association of Artists in England, France, or Italy, is, or can be in the present day, an Association for the Improvement of Architecture, or of any other art by such Dominant Associations professed. The primary object of all such Associations is to exalt the power of their own profession over the mind of the public, power being in the present century synonymous with wealth. And the root of all the evil and ruin which this century has seen (and it has destroyed already more than the French Revolution did of what *that* had left) is summed up in four words, "Commission on the Cost." And, from any body of architects, however small, who will bind themselves henceforward to accept a given salary (whatever amount, according to their standing, they may choose to name) for their daily work, and to work with their men (or at least with their own hands, on the sculpture of the building) while they take such salary—from such a body I will take a medal to-morrow.

That I have myself failed, I have, as you tell me, again and again confessed. That I have made the most fatal mistakes I have also confessed.

That I have received no help, but met the most scornful opposition in every effort I have ever made which came into collision with the pecuniary interests of modern builders, may, perhaps in a degree more than I know, have occasioned my failure.

But I now recognise many of my mistakes, and hope yet to accomplish something before I die. It may be, but I trust will not be, single-handed, but at all events it must be in association only with men who know their business.

Now, you are well aware that I agree with every word of your Inaugural Address. As I read it—and I have read it all before concluding this answer to your remonstrance—I feel as if you had no other intention in sending it than to justify my proceeding.

But I will employ in my justification only two sentences of it. I will not copy—you can more easily read on my reference—the three lines at the top of page 6. I think they violently overstate my *own* view of the necessities of the profession. *I* should have written, not "their *whole* heart," but the whole practical force of their heart. *I* should have written, not their "single" object, but their "principal" one. Putting that sentence into such milder form, I can only say, if I believed there were ten men in the Institute to whom it could be truly applied, I would take the Medal.

The other sentence I would refer to is in the seventh line from the bottom of page 10.

"The public as a body scarcely know the difference between good architecture and bad."

On which I must ask further, As a body, does the Institute? If it does, why has it not taught the public?

If it does not, shall I take the Medal, implying the recognition of its authority? I have only to say in conclusion that, having entirely loyal feelings towards the Queen, I will trust to

Her Majesty's true interpretation of my conduct; but, if formal justification of it be necessary for the public, would plead that if a peerage or knighthood may without disloyalty be refused, surely much more this minor grace proceeding from the Monarch may be without impropriety declined by any of her subjects who wish to serve her without reward, under exigency of peculiar circumstances.—Believe me, my dear Sir Gilbert, always faithfully yours,

Sir G. Gilbert Scott, R.A. J. Ruskin.

Private.

My dear Sir Gilbert,—I have written the enclosed this morning, under unusual irritation caused me by the ravage of the lower church and miserable repainting of the higher one under the orders of Signor Cavalcaselli, and the destruction of one of the loveliest scenes in Italy, the fountains between the buttresses of Santa Chiara.

I hope I have said nothing more than is right (at least in my view) in consequence of this irritation. But I can only say that if I wrote, or *could* write, as I feel, *any* day of my life, you would pity me, not be angry with me.—Ever faithfully yours, J. Ruskin.

The new Architect Associate of the Royal Academy.

The Council at their meeting on Monday, the 5th inst., passed a unanimous vote cordially congratulating Mr. John Belcher [*F.*] on his recent election to Associateship of the Royal Academy.

The late William White, F.S.A.

William White, F.S.A. [*F.*], born in 1825, died Monday, 22nd January 1900, aged seventy-four, was a great-nephew of Gilbert White of Selborne, and the third son of the Rev. Francis Henry White, curate of Blakesley, Northamptonshire, and private chaplain to the late Sir Henry Dryden, of Canons Ashby. The Whites of Blakesley were intimate friends of the family of George Gilbert Scott, then a young man, whose home was in the neighbouring parish of Wappenham.

At an early age William White was placed with an architect of good position, Mr. Squirrell of Leamington, in whose office he obtained such knowledge of his profession as might then be had in that way, supplemented by visits to the works and the builders' workshops of the town. Drawing, however, was not cultivated; neither was art much thought of; in these he was self-taught, the churches and ancient buildings of the neighbourhood, to which his knowledge of style was confined, being his school.

On completing his articles he came to London, and worked in the office at Spring Gardens of his early friend George Gilbert Scott. Here he became the intimate associate of George Edmund Street and George Frederick Bodley, both in their work and on sketching expeditions.

At the age of twenty-two White started in independent practice at Truro, where he designed and carried out certain buildings, consisting of the Bank and Solicitors' Offices, which occupy the site of the old Stannery Court, and afterwards the bank of St. Columb. He built or restored numerous churches in the county, amongst them being Baldin, St. Gerrans, St. Hillary, St. Phillack, St. Petroc Minor, Lamorran, and subsequently New Quay, Merifield by Torpoint, Anthony and St. John's. Amongst many domestic works in the same county he undertook the renovation of the ancient and interesting moated Rectory of St. Columb for the Rev. Dr. Samuel Walker.

The important Church of All Saints, Notting Hill, which he built for the same client, brought him again to London about the year 1852. The funds for this building failed, and the lofty tower had to be left without the spire which was designed to have been its complement.

At this time he identified himself with the revival of Gothic architecture, striving to set a proper standard of church arrangement, and, in conjunction with others then engaged in the restoration of ancient fabrics, endeavouring to determine correct principles and just methods of dealing with old work. He became a life member of the Institute in 1859; was especially interested in the work of the Ecclesiological Society, and subsequently became a member of the Professional Committee of the Incorporated Society for the Building and Enlarging of Churches, &c., a position which he held to the end of his life.

White always regretted what appeared to him to be his limited power of drawing; but, having less skill with his pencil than many of his compeers, he succeeded, notwithstanding, in stamping on his works the intention of his mind in regard to every detail. He gave to forms, mouldings, and ornament a distinctive character, in harmony not only with the nature of the material, but also with the methods and tools employed by the craftsmen. On the subject of his own methods of work he was reserved, regarding himself as rather a self-taught man. To him everything connected with his art was a delight, chastened by a sense of the inadequacy of the means he possessed to attain the ideal that he had before him. Moreover, like the man of enthusiasm that he was, he relied upon himself alone to do the best he was capable of, trusting to his own common sense, and giving to the workmen the drawings of his own hand, that nothing of his intention might be lost for want of that intention being expressed as clearly as he could through the medium he employed.

He devoted considerable time to the study and definition of certain theories of proportion in design, which he set forth in the *Ecclesiologist* for 1853, and which have been discussed at the meetings of the Institute.

An appreciative notice of White's work is given in Mr. C. L. Eastlake's *History of the Gothic Revival*, pp. 291–294.

He made numerous communications to the *Ecclesiologist*, *Church Bells*, and the professional journals. The following is a list of his contributions to the TRANSACTIONS R.I.B.A.:—

Newland Church, Gloucestershire, with Remarks on Church Restoration and Arrangements.—*Trans.* 1863–64.
Ironwork: its Legitimate Uses and Proper Treatment.—*Trans.* 1865–66.
On the Measurement of the Obstruction of Ancient Lights.—*Trans.* 1866–67.
Descriptive Sketch of a Mansion at Humewood, co. Wicklow, erecting for Mr. Fitzwilliam Dick.—*Trans.* 1868–69.
Fireproof Closing of Openings under the Building Act.—*Trans.* 1884–85.
Wisby, in the Island of Gotland.—*Trans.* 1885–86.
The Galilee of Durham Cathedral.—*Trans.* 1889–90.
Church Fittings.—*Trans.* 1889–90.

He also contributed to the PROCEEDINGS and JOURNAL of the Institute various articles, notes, and reviews.

He was President of the Architectural Association in 1868–69, and in his time took an active part in the work of the Association.

William White executed a very large number of works, principally churches, schools, and parsonage-houses, a few of considerable magnitude, and all of them distinct in character, simple, reserved, and eminently sincere. His works include, besides those already mentioned, the following:—St. Saviour's, in Aberdeen Park, Highbury; St. Mark's, Battersea Rise; St. Peter's, Plough Lane, with Mission Room adjoining; St. Matthew's, Lavender Hill; St. Mark's, Hanwell. The Cathedrals of Madagascar and Pretoria, and churches at Lyndhurst, New Forest; Masborough, Derwent, and Park Gate, near Sheffield; Elvington, North Ormsby, and Stockton-on-Tees; Sharow, near Ripon; Freemantle and Woolston, near Southampton; Holy Trinity, Barnstaple; Burton, by Banbury; Felbridge, by East Grinstead; Fenny Stratford, Bucks, and Langdon Hills, near Stanford-le-Hope. He carried out church restorations at Newland, in the Forest of Dean, and Adisham, near Dover; West Wittering, Sussex, Preston by Wingham, Great Maplestead, Bletchley, Selbourne, and Witham Friary, built by Hugh of Lincoln.

Among parochial buildings are the schools at North Church, by Berkhampstead. Great Maplestead, Masborough, Longbridge, Deverill, Mevagissey; the Rectories of Ruan-Lanihorne, Cornwall, Stanhoe by Lynn, and Langdon Hills; the Vicarages of Haydour by Sleaford, Great Mapleshead, Beaminster, St. Margaret's at Cliff, Boxgrove, Lyminster, St. Mary Abbot, Kensington, and two vicarages at Halstead. To his designs were erected country houses at Humewood, in Ireland, for W. W. Fitzwilliam Dick, Esq.; at Winscote, North Devon, for J. C. Moore-Stevens, Esq.; at the How, St. Ives, for the late Gilbert Ansley, Esq.; at Copt-Hewick, and Sharow Lodge, near Ripon. Scholastic houses and buildings at Winchester, Rugby, Eton, Marlborough, Shrewsbury, Haileybury (preparatory school), Barnet, and the Forest School, Walthamstow.

Among Institutions are St. Michael's Home at Wantage, Cottage Hospital at Andover, new wing to training college at Salisbury, and Mission Hall, Pentonville.

Besides restorations enumerated above are the following:—Rectory of Dartington, Devon; the ancient palace of Bishopscourt, near Exeter, with its original chapel; Tarporley Rectory, Cheshire; the Manor House of Marshalls, near Edgware, and Quy Hall, near Cambridge.

THOMAS HENRY WATSON [*F.*]

In formally announcing Mr. White's death at the last meeting of the Institute, the Hon. Secretary, Mr. Graham, in a few brief remarks, paid a tribute of respect to the high qualities of the deceased. Nearly fifty years ago, Mr. Graham informed the Meeting, William White was a conscientious and successful worker in the school of the Gothic Revival, and he doubted whether in that band of ardent enthusiastic men there was one who paid more respect to the teachings of Welby Pugin, or who had shown in his work his ability to apply the principles enunciated in that school with greater facility than William White. They had lost a worthy man, a faithful member of the Institute, and an architect of high repute. Mr. Graham concluded by asking the Meeting to pass a Resolution of regret and condolence, as entered on the Minutes.

REVIEWS.

THE FUTURE OF BORDIGHERA.

L' avvenire di Bordighera. Guglielmo Scott. Bordighera. 1900.

Mr. William Scott (*Soane Medallist* 1877), of Bordighera, has recently published a pamphlet in Italian, dedicated to his Excellency Commendatore Giuseppe Biancheri, member of parliament for the province of Porto Maurizio, including Bordighera, Ventimiglia, &c., and Privy Councillor, on the future of Bordighera, on the Riviera, in which he calls the attention of the municipal authorities to their shortcomings, and makes some useful suggestions with regard to the future of this favourite winter resort.

Mr. Scott points out that according to competent authority the amount expended annually by foreign visitors to Bordighera is not less than £150,000 sterling, the greater portion of which is contributed by the English; and argues that in order to retain, and if possible to increase, the sum thus expended in the town an effort should be made to conciliate the prejudices of foreigners and to provide additional attractions beyond those furnished by the climate and natural scenery. Before everything else Mr. Scott suggests that the roads at Bordighera, which appear to be in a deplorable condition, should be put in an efficient state for carriage and pedestrian traffic, for which purpose he advocates the employment of the steam roller, the use of which, although adopted in most Continental cities, and even in China and Japan, has not yet penetrated to this part of Italy.

The absence of a public promenade at Bordighera is dwelt upon by the author as a reason for the inferiority of that town as compared with Cannes, Nice, and Mentone, all of which are provided with excellent promenades next the sea, the Promenade des Anglais at Nice being known all over the world. The municipality of Bordighera has recently expended 100,000 lire (£4,000) in laying out a new street, the Traversa, which, as the author asserts, will not attract a single visitor to the town, and he urges with great plausibility that the formation of a promenade adjoining the sea would, if properly carried out, attract hundreds of visitors.

Mr. Scott at the conclusion of his pamphlet apologises for the deficiencies of his literary style, the work being composed in a language not his own. The style, however, leaves nothing to be desired, and Mr. Scott is to be congratulated on the ease with which he makes use of the language of what he calls his second country, towards which he expresses his passionate devotion.

John Hebb.

LEGAL.

Building used partly for Trade and partly as a Dwelling.

THE QUEEN *v.* SHIEL AND OTHERS.

In this case, before Mr. Justice Channell and Mr. Justice Bucknill on the 1st February, cause was shown on behalf of Messrs. Snewin Bros. & Co. against a rule calling upon a metropolitan police magistrate to state a case upon an information preferred under section 74 of the London Building Act 1894. The section requires that when a building is "used in part for the purposes of trade or manufacture and in part as a dwelling-house" the two parts shall be separated by walls and floors constructed of fire-resisting materials. The information was preferred in respect of a building which was intended to be used in part as a public-house and in part as a dwelling-house, and the question proposed to be raised by the case was whether a public-house was within section 74. The magistrate declined to state a case on the ground that the same point was considered and decided in *Carritt* v. *Godson* [Journal R.I.B.A., Vol. VI. 1899, p. 460], in which Mr. Justice Day and Mr. Justice Lawrance, sitting as a Divisional Court, held that a public-house was not within the section. *Carritt* v. *Godson* was a case decided under a criminal section of the London Building Act 1894, and there was, accordingly, no right of appeal from that decision to the Court of Appeal. The London County Council had taken these proceedings under a different section in order, if possible, that they might take the matter to the Court of Appeal.

Mr. Danckwerts, Q.C., appeared to show cause; and Mr. Avory appeared for the London County Council in support of the rule.

The Court discharged the rule, but gave leave to appeal.

Mr. Justice Channell said that he should not feel at liberty to say that the decision of his learned brothers required reconsideration. Moreover, so far from thinking that *Carritt* v. *Godson* was wrongly decided, he thought *prima facie* that the decision was right.

District Surveyor's Fees: Payable by Builder, or in his Default by the Owner.

MEESON *v.* SPRUNG.

At the North London Police Court on 26th January Mr. Fordham delivered judgment in the case of *Meeson* v. *Sprung*, which was a claim on the part of one of the district surveyors of Hackney for fees to the amount of £1 12*s.* 6*d.* due on a building in Windsor Road, Hackney Wick, of which Mr. H. Sprung, of St. Mark's Road, Dalston, is the owner. Mr. Fordham said that the proceedings were taken under section 154 of the London Building Act of 1894, which reads: "There shall be paid by the builder, or in his default by the owner or occupier," the fees, &c. The fees were therefore primarily to be paid by the builder, and it was only when he was in default that the provision for the payment by the owner was made. Consequently, until it was proved that the builder was in default, the owner could not be held to be liable. In the present instance the builder had simply been asked to pay and had refused. Mr. Meeson had at once summoned the owner, without making any attempt to enforce his rights against the builder. He could not hold that simple refusal on the part of the builder was such default as absolved him from his liability and made the owner liable. If this were so, no builder would ever pay as the Act evidently intended that he should. "Default" meant something more than refusal. The summons would be dismissed with £1 1*s.* costs. As, however, the question did not appear to have arisen before, and there were no decisions on the point, he would be happy to state a case if asked to do so.

The Factory Acts: Means of Escape in case of Fire.

IN RE AN ARBITRATION BETWEEN THE LONDON COUNTY COUNCIL AND LEWIS.

This was a motion, in the Queen's Bench Division on 12th January, to set aside an award made by an umpire in an arbitration under section 7 of the Factory and Workshop Act 1891. Messrs. Lewis were the owners of a building, No. 21, Moor Lane, in the City of London, of which the basement, ground floor, and first floor were let on leases for different terms of years as cloth and toy warehouses, the second, third, and fourth floors containing printing works, which are "non-textile factories" within the meaning of section 93 of the Factory and Workshop Act 1878. The London County Council, as the sanitary authority of the district in which No. 21, Moor Lane, was situate, conceived that these factories were not furnished with adequate means of escape in case of fire. The Factory and Workshop Act 1891, section 7, provides that every factory constructed after the date of the Act is to be furnished with a certificate from the sanitary authority of the district that the factory is provided on the stories above the ground floor with such means of escape in case of fire as can reasonably be required under the circumstances of each case, and a factory not so furnished is deemed not to be kept in conformity with the Act of 1878. Further, with respect to all factories to which the foregoing provisions do not apply (including in that description the factories at the top of 21, Moor Lane), it is the duty of the sanitary engineer of every district from time to time to ascertain whether all such factories within their district are provided with such means of escape as aforesaid, and, in case of any factory not so provided, to serve on the owner of the factory a notice in writing specifying the measures necessary for providing such means of escape, and requiring him to carry out the same before a specified date, and thereupon such owner is, notwithstanding any agreement with the occupier, to have power to take such steps as are necessary for complying with the requirements, and, unless such requirements are so complied with, such owner is made liable to a fine not exceeding £1 for every day that such non-compliance continues. In case of a difference of opinion between the owner of a factory and the sanitary authority the difference is, on the application of either party, to be referred to arbitration, and the award is made binding on the parties thereto. The London County Council, being of opinion that these floors were not provided with proper means of escape in case of fire, served upon Messrs. Lewis a notice calling upon them to make such structural alterations in the building as should be requisite to provide the upper stories with proper means of escape. Messrs. Lewis not agreeing with the demands of the London County Council, the matter was referred to arbitration. The arbitrators appointed an umpire, who made an award directing, among other things, that a new staircase should be provided from the basement to the top floor, such staircase to be connected with all the floors by means of doors not less than 3 feet 3 inches wide; that a proportion of not less than half of the windows facing Moor Lane on each floor should be made to open of sufficient height and width to allow a full-grown person to pass through in case of need. The award further contained particulars of the materials and manner of and in which the work was to be executed.

Sir R. T. Reid, Q.C., Mr. Macmorran, Q.C., and Mr. J. R. Atkin, for Messrs. Lewis, contended that the award was bad in that it required the owner to enter upon tenements in the possession of third persons with or without their leave or licence. The arbitrator had no jurisdiction to make any such award. The Act of 1895 gave power to the owner to enter upon a factory or several factories where several existed in the same building; but where part of a building was and part was not a factory there was no power given to the owner to enter upon the part which was not a factory.

Mr. Daldy and Mr. Edwardes Jones (Mr. Avory with them), for the London County Council, contended that the award was merely a statement of what was necessary for the safety of the building.

The Court (Mr. Justice Phillimore and Mr. Justice Bucknill) held that the arbitrators or umpire had no jurisdiction to order the owner to enter upon the tenements unless the whole house were a factory. In this case there were two factories at the top of the house, but the rest of the building was not a factory. The award, however, would not be set aside, but remitted to the arbitrators with a direction to them to consider what alterations, if any, were reasonably requisite under all the circumstances of the case. As, however, the question of the arbitrators' jurisdiction had not been raised earlier, the award was remitted without costs.

MINUTES. VII.

At the Seventh General Meeting (Ordinary) of the Session, held Monday, 5th February 1900, the President, Mr. Wm. Emerson, in the Chair, with 30 Fellows (including 16 members of the Council), 26 Associates (including 1 member of the Council), 3 Hon. Associates, and several visitors, the Minutes of the Meeting held 22nd January 1900 [p. 118] were taken as read and signed as correct.

The Hon. Secretary having announced the decease of William White, F.S.A., *Fellow*, elected in 1859, moved, and it was thereupon

> RESOLVED, that the Institute do record its sincere regret for the loss it has sustained by the death of its Fellow, Mr. William White, and that a vote of condolence with his near relatives be entered on the Minutes of the Meeting and communicated to them.

Mr. R. I. Bennett, *Fellow*, President of the Manchester Society of Architects, attending for the first time since his election, was formally admitted by the President.

The following candidates for membership, found by the Council to be eligible and qualified according to the Charter and By-laws, were recommended for election:—As FELLOWS, David Barclay Niven [*A.* 1890]; William Edward Riley [*A.* 1883], Superintending Architect to the London County Council; Herbert Hardy Wigglesworth [*A.* 1891]. As ASSOCIATES (all the candidates having passed the Qualifying Examination), Francis Henry Allen [*Probationer* 1895, *Student* 1897], Kettering; William Henry Ansell [*Probationer* 1894, *Student* 1896]; Spencer Ellwood Barrow [*Probationer* 1891, *Student* 1894], Lancaster; Francis William Ashton-Buckell [*Probationer* 1892, *Student* 1898]; Thomas Joseph Byrne [*Probationer* 1897, *Student* 1898]; Bessie Ada Charles [*Probationer* 1893, *Student* 1896]; David McLeod Craik [*Probationer* 1893 *Student* 1896]; Alfred Herbert Foster [*Probationer* 1896 *Student* 1897]; Frank Foster; Stanley Hinge Hamp [*Probationer* 1896, *Student* 1897]; John Harry Woodall Hickton, Walsall; Mathew Honan [*Probationer* 1896, *Student* 1897], Liverpool; Herbert Edward Illingworth [*Probationer* 1893, *Student* 1895], Leeds; Alfred Ralph Keighley [*Probationer* 1892, *Student* 1895], Liverpool; Thomas Anderson Moodie [*Probationer* 1890, *Student* 1895]; James Edward Coleman Shield [*Probationer* 1892, *Student* 1895]; John Edward Spain [*Probationer* 1895, *Student* 1898], Wragby, Lincs.; Reginald Henry Spalding [*Probationer* 1894, *Student* 1897]; Frederick Taylor, Aylesbury, Bucks; Ramsay Traquair [*Probationer* 1894, *Student* 1896]; Thomas Tyrwhitt [*Probationer* 1894, *Student* 1896; *Institute Medallist Drawings* 1898]; Harold Watts [*Probationer* 1893, *Student* 1896], Plymouth. As HON. FELLOW, The Right Honourable Sir Richard Temple, Bart., G.C.S.I., C.I.E., D.C.L., LL.D., F.R.S.

The President announced that the Council proposed to submit to Her Majesty the Queen the name of Professor the Commendatore Rodolfo Lanciani, D.C.L. Oxon. [*Hon. Corr. M. Rome*], as a fit recipient of the Royal Gold Medal 1900.

ADDRESSES TO STUDENTS having been delivered by the President and Mr. G. F. Bodley [*F.*], A.R.A., a vote of thanks was passed to the authors by acclamation.

The President distributed the Prizes and introduced the Travelling Students, in accordance with the Council's Deed of Award [*ante.* pp. 114 *sqq.*], and further presented to the respective holders the medals connected with the Godwin Bursary and Pugin Studentship of 1899.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

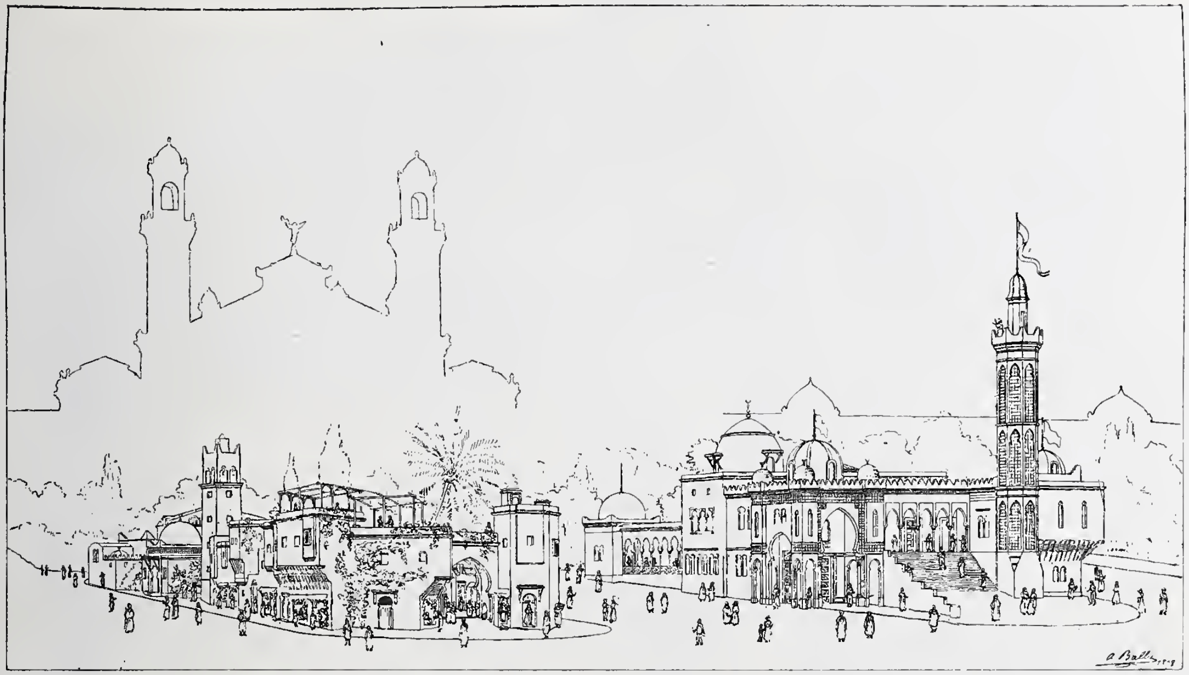


FIG. 1.—SECTION ALGÉRIENNE.

NOTES SUR LES PALAIS DE L'EXPOSITION DE PARIS EN 1900.

Par Charles Lucas [*Hon. Corr. M., Paris*].

Read before the Royal Institute of British Architects, Monday, 19th February 1900.

Monsieur le Président, Messieurs et Honorés Confrères,—

MON honoré confrère français, membre honoraire et correspondant de l'Institut royal des Architectes britanniques, M. Alfred Normand, membre de l'Institut de France, à la fois Président de la Société Centrale des Architectes français et du Comité d'Organisation du Congrès international des Architectes de Paris en 1900, m'a demandé de présenter à ses honorés confrères anglais les meilleurs compliments de sympathie de leurs confrères français.

Il y a près d'un an le Secrétaire de l'Institut royal des Architectes britanniques me mettait au courant des efforts tentés sur l'opinion publique, toujours si puissante en Angleterre, par M. G. Aitchison, alors président, et par les membres les plus autorisés de cet Institut, afin d'obtenir du London County Council qu'il fût fait appel à la collaboration d'un architecte dans l'étude d'un nouveau pont à jeter sur la Tamise, mes honorés confrères anglais, véritables disciples du regretté John Ruskin, estimant avec raison que toute note d'art, décorant une construction utilitaire, sert à la fois à l'embellissement de la ville et à l'éducation du goût public.

A cette époque le Journal de l'Institut voulut bien publier une lettre dans laquelle, comme corollaire à d'aussi nobles préoccupations, j'exposais sommairement comment une telle question se trouvait alors traitée en France * à propos de la construction, à Paris, du Pont

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* *Journal R.I.B.A.*, III^{e} Série, vol. vi. n^{o} 9, 11 Mars 1899, p. 277.

Alexandre III, jeté sur la Seine pour relier la nouvelle avenue des Palais des Champs-Elysées à l'Esplanade des Invalides.*

Et quelque temps après j'éprouvais une réelle satisfaction, mélangée d'un peu d'amour-propre national, en conduisant votre secrétaire à l'agence des architectes et sur le chantier du pont Alexandre III, et en lui faisant voir et toucher du doigt la masse considérable de dessins, de perspectives, d'aquarelles même et aussi de modèles, auxquels donnait lieu, de la part de MM. Cassien-Bernard et G. Cousin, architectes, l'étude de la décoration de ce pont Alexandre III, œuvre scientifique de MM. Résal et Alby, ingénieurs des Ponts et Chaussées.

C'est alors que, toujours soucieux d'assurer à vos seánces une rare et heureuse variété de documents demandés à toutes les parties du vaste empire britannique, et aussi aux nations dans lesquelles fleurit de nos jours l'art de bâtir, votre secrétaire me demanda quelques notes et, si possible, quelques illustrations relatives aux palais en cours de construction pour abriter la prochaine Exposition Universelle Internationale de Paris en 1900.

Désireux de payer, dans la mesure de mes moyens, ma dette de reconnaissance à l'Institut royal des Architectes britanniques, qui me fit le grand honneur de m'inscrire sur la liste de ses membres honoraires et correspondants dès le mois de janvier 1881, j'acceptai, un peu à la légère, je l'avoue, de réaliser ce désir, ne soupçonnant pas l'ampleur que prendrait forcément l'étude, même à vol d'oiseau, de constructions nombreuses et diverses, occupant un vaste emplacement, aujourd'hui ne formant qu'un seul chantier et comprenant une partie des Champs-Elysées et des deux rives de la Seine, le Trocadéro, le Champ de Mars, l'Esplanade des Invalides, et auquel il faut ajouter encore, mais à l'autre extrémité de Paris, une partie du bois de Vincennes.

M. J. Bouvard, directeur des Travaux d'Architecture de l'Exposition de 1900, me facilita, il est vrai, singulièrement ma tâche en me remettant, avec l'agrément de M. Alfred Picard, commissaire général, une note de service priant les architectes placés sous sa haute direction de me donner les documents dont ils pourraient disposer en vue de cette étude que je préparais à votre intention, et nous verrons plus loin quels documents il me fit personnellement remettre pour vos archives, par son fils et son secrétaire, notre jeune confrère M. Roger Bouvard ; mais il me semble utile de transcrire ici quelques données générales sur l'ensemble de l'Exposition de 1900, données qui me furent communiquées avec l'autorisation de M. Chardon, secrétaire général, par M. Bonnier, architecte en chef des Installations.

La surface totale occupée dans Paris par l'Exposition sera de 112 hectares (1,120,000 m. c.), se répartissant ainsi :

	Hectares	Ares
Champ de Mars	50	
Trocadéro	16	
Esplanade des Invalides	12	
Champs-Elysées	15	
Quais de la rive gauche	9	50
Quais de la rive droite	9	50
Ensemble	112	00

auxquels il faut ajouter 110 hectares (1,100,000 m. c.) detachés provisoirement du bois de Vincennes et affectés à des expositions spéciales— sports divers, habitations à bon marché, etc.

Les 19 hectares des quais de Paris se développent sur une longueur totale de 4 kilom. 500 m., soit 2 kilom. 250 m. sur chaque rive de la Seine.

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* Un grand détail de l'arche unique du pont Alexandre III et la vue d'un des quatre pylônes placés aux extrémités de ce pont figurent parmi les autographies accompagnant ces Notes.

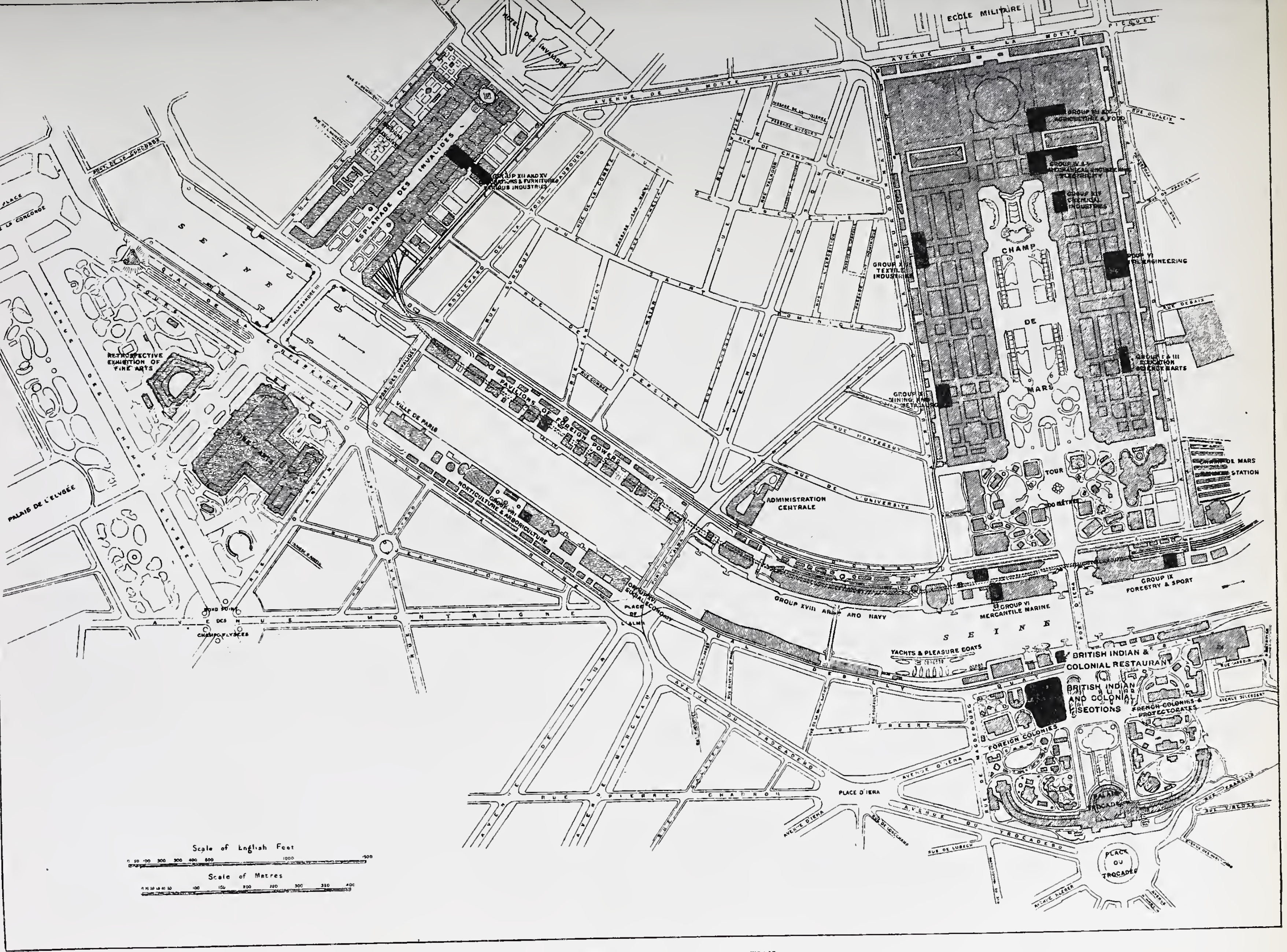

FIG. 2.—GENERAL PLAN OF THE EXHIBITION.

La surface couverte ne sera pas moindre de 45 hectares (exactement 452,000 m. c.), se répartissant ainsi :

	m. c.
Section Française : Palais et Constructions Administratives . . .	250,000
Section Etrangère : Palais et Constructions Administratives . . .	170,000
Bois de Vincennes	32,000
Ensemble . . .	452,000

Les constructions particulières des sections étrangères, disposées sur la rive gauche de la Seine, occuperont une surface de plus de 50,000 m. c.

Et, en dehors de ces chiffres, qui ont certes leur éloquence, il faut encore compter plus de 100 pavillons français, de nombreux restaurants, des kiosques et des établissements de consommation, ainsi que 75 pavillons ou constructions étrangères en dehors des pavillons officiels des nations representées à l'Exposition, lesquelles sont au nombre de 36.

D'après les calculs faits sous la direction de M. Résal, l'ingénieur en chef du contrôle des constructions métalliques, le poids total des fers et aciers employés dans les seuls palais officiels français s'élève à 50,000 tonnes, et il a été prévu, pour la force motrice et l'éclairage électrique, un ensemble de 20,000 chevaux-vapeur, qui pourraient, en cas de besoin, être portés à 40,000 ; enfin la force des grues de transbordement est de 425 tonnes.

Malgré que beaucoup de materiaux de construction et de décoration arrivent prêts à être posés, le personnel ouvrier permanent, qui compte beaucoup de charpentiers en bois et en fer, s'élève en moyenne à 5,000 hommes par jour.

Un dernier renseignement de statistique : plus de 4,000 personnes appartiennent aux nombreux comités d'admission et d'installation, et ce chiffre se complete encore par le nombre des membres des comites d'organisation de près de 160 congrès aujourd'hui inscrits pour tenir leurs séances pendant l'Exposition.

Avant tout aperçu des bâtiments il est une question professionnelle du plus haut intérêt, mais toujours en discussion, pour les architectes, celle des *Concours publics*, dont le principe se trouve avoir reçu, par la répartition même des grands travaux de l'Exposition, une éclatante consécration.

Les vingt-trois grands chantiers, dependant de la direction des services d'Architecture de l'Exposition, ont à leur tête vingt-trois architectes, tous primes aux deux concours ouverts en vue de l'érection des deux palais des Champs-Elysées,* et ces architectes, parmi lesquels sept anciens pensionnaires de l'Académie de France à Rome,† se sont entourés de collaborateurs qu'ils ont eux-mêmes choisis parmi d'anciens camarades d'atelier, d'Ecole, de *Loges*,‡ c'est-à-dire parmi d'anciens élèves des mêmes maitres, ayant participé dès longtemps aux mêmes luttes artistiques.

Vous pardonnerez, messieurs, ces observations qui ont au moins cet intérêt de montrer les constructions officielles françaises de l'Exposition Universelle de 1900—qu'il s'agisse des deux Palais construits définitivement aux Champs-Elysées ou des Palais éphémères du Champ de Mars ou de l'Esplanade des Invalides—comme une résultante, sinon des tendances de l'Ecole française d'Architecture, mais du moins du mode d'étude des élèves de cette Ecole, et les nombreuses autographies, que j'ai glanées à votre intention, souvent parmi des centaines d'autres, dans presque toutes les agences des palais français, aussi bien des Champs-Elysées que du Champ de Mars et de l'Esplanade des Invalides, me paraissent pouvoir, plus que tous autres documents, vous donner une idée assez exacte des grands efforts d'art dépensés sans compter par mes confrères français, qu'ils aient à édifier une œuvre définitive comme les deux palais des Champs-Elysées destinés aux Expositions des Beaux-Arts, ou qu'ils aient à édifier une œuvre éphémère qui sera inaugurée le 15 avril 1900 et démolie dès le 16 novembre suivant.

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* Certains chantiers ont deux architectes à leur tête, plusieurs projets primés ayant eu deux auteurs associés dans l'étude du même projet.

† Les anciens pensionnaires de l'Académie de France à Rome sont, dans leur ordre d'ancienneté comme Lauréats du premier grand-prix d'architecture, MM. Albert Thomas (1870), Paulin (1875), V. Blavette (1879), Ch. Girault (1880), Deglane (1881), Esquié (1882), Sortais (1890) ; mais d'autres, MM. Cassien-Bernard, Jacques Hermant, Louvet, Varcollier, Deperthes fils et Marcel Auburtin, ont obtenu, à côté d'eux, le deuxième grand-prix ou la mention au grand-prix, et les autres enfin, pour la plupart camarades de loges des premiers, comptent parmi les plus brillants élèves de l'Ecole des Beaux-Arts.

‡ Cette expression, comme celle de *logistes*, pour désigner les concurrents au grand-prix de Rome, vient de ce que ce concours, qui dure cent jours, s'effectue dans des loges ou cellules à l'Ecole même.

Après ces considérations générales, ne pouvant avoir la prétention d'analyser avec vous, au cours d'une seule séance, les innombrables motifs d'art et aussi de construction qui foisonnent dans tous ces édifices, Petit et Grand Palais des Champs-Elysées, Pont Alexandre III, Palais et Galeries d'Exposition des rives de la Seine, du Trocadéro, du Champ de Mars et de l'Esplanade des Invalides, il me faut recourir à une langue universellement connue de tous et particulièrement des architectes, celle du dessin, et mettre sous vos yeux des vues perspectives et des projections en géométral (plans, coupes et façades) de la plupart de ces édifices, afin que, malgré les changements que l'étude y apporte chaque jour et y apportera jusqu'à la dernière heure, vous puissiez vous faire une idée assez exacte de ces édifices.

Au point de vue général la collection formée par les soins de M. J. Bouvard, et qu'il m'a chargé de vous remettre en son nom, forme comme une synthèse des principaux bâtiments, de presque tous les bâtiments officiels de l'Exposition, et doit être examinée ici avant toute étude, même sommaire, des détails de chacun de ces bâtiments.

Cette collection comprend :

1° *Trois grands plans-masses.*—I.* Plan d'ensemble de l'Exposition ;
II. Plan-masse du Champ de Mars ;
III. Plan-masse de l'Esplanade des Invalides ;

2° *Trois photographies.*—IV. Réduction du plan général ;

V. Vue à vol d'oiseau prise du côté de l'entrée principale de l'Exposition (la Porte monumentale élevée à l'angle S.O. de la place de la Concorde, de la Seine et du Cours-la-Reine), vue montrant l'ensemble des bâtiments ;

VI. Vue à vol d'oiseau montrant la nouvelle avenue des Palais, avenue partant des Champs-Elysées et gagnant, par le pont Alexandre III, l'Esplanade des Invalides, esplanade dont la partie centrale sera convertie en jardin après l'Exposition ;

3° *Dix-sept phototypies.*—VII. Porte monumentale de la Place de la Concorde (architecte, M. Binet) ;

VIII. Petit Palais (architecte, M. Ch. Girault, architecte en chef des deux palais des Champs-Elysées) ;

IX. Perspective de la nouvelle Avenue avec, à droite, une perspective de la façade de la partie antérieure du Grand Palais sur cette avenue (partie du grand palais dont l'architecte est M. Deglane) ;

X. Palais de l'Horticulture sur la rive droite de la Seine après le pont des Invalides (architecte, M. Ch. A. Gautier) ;

XI. Palais des Congrès et de l'Economie sociale, à la suite du précédent, près du pont de l'Alma (architecte, M. Mewès) ;

XII. Photographie d'une Maquette des constructions des culées et des pylônes de chaque extrémité du pont Alexandre III (ingénieur en chef, M. Résal ; ingénieur, M. Alby ; architectes, MM. Cassien-Bernard et G. Cousin) ;

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* Les vingt-trois numéros en chiffres romains qui suivent se retrouvent marqués à l'angle droit inférieur de chacune des vingt-trois planches formant cette première partie du Catalogue des illustrations de cette lecture.

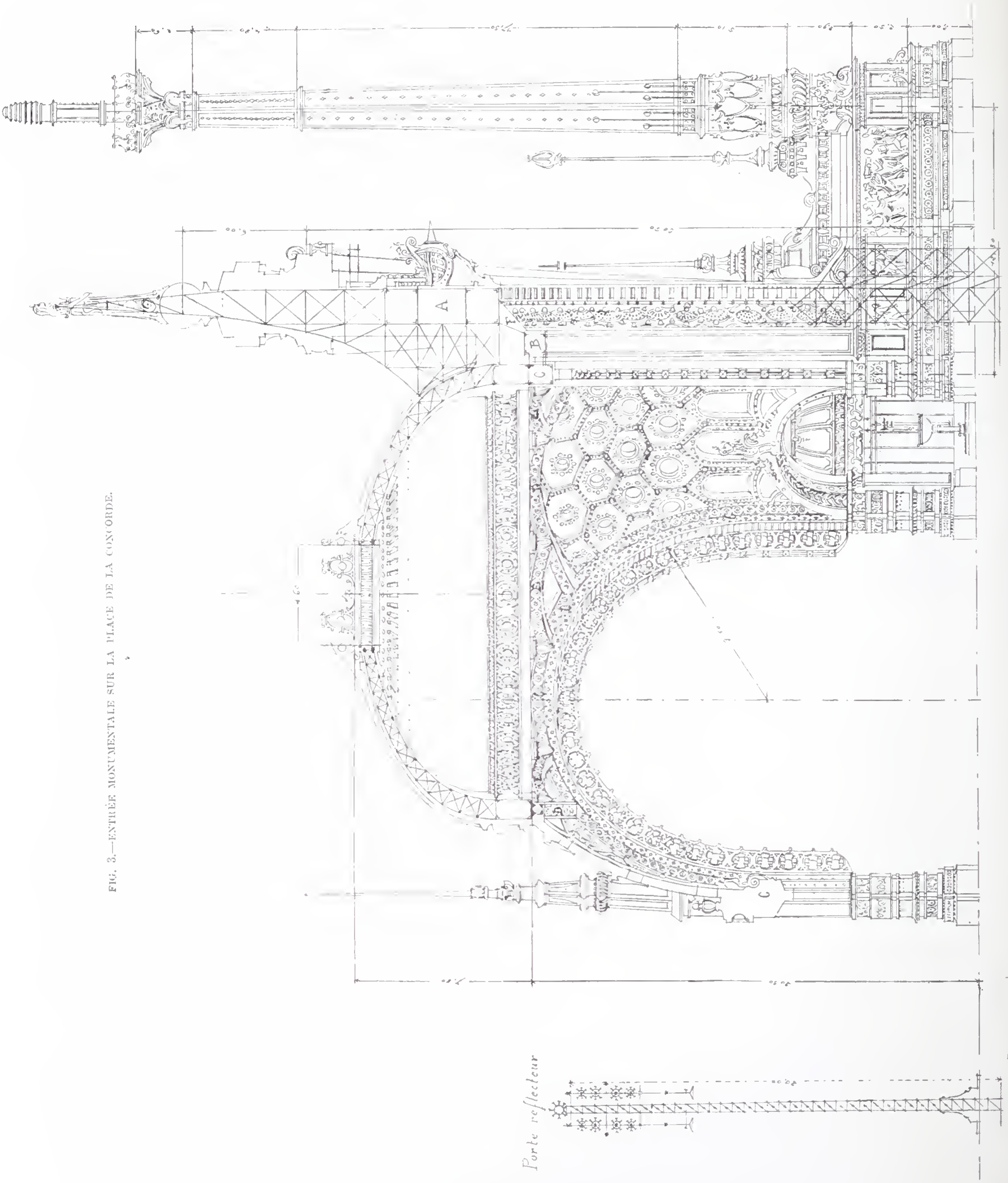

FIG. 3.—ENTRÉE MONUMENTALE SUR LA PLACE DE LA CONCORDE.

XIII. Vue du pont Alexandre III, prise du pont de la Concorde ;

XIV. Vue des rives de la Seine, prise du pont des Invalides (vue faisant suite à la précédente) ;

XV. Vue d'ensemble des Palais de la Navigation, de Commerce et des Forêts, Chasse, Pêche et Cueillette (architectes, MM. G. Tronchet et A. Rey), vue prise du milieu du pont d'Iéna et donnant, en arrière-plan, la Tour Eiffel et les palais du Champ de Mars, avec, au fond, le couronnement du Palais de l'Electricité ;

XVI. Façades du Palais de l'Education, Enseignement et Procédés généraux des Lettres, des Sciences et des Arts (angle droit du Champ de Mars) (architecte, M. Sortais) ;

XVII. Palais du Génie civil et des Moyens de Transport (à la suite du précédent) (architecte, M. J. Hermant) ;

XVIII. Château d'Eau et Palais du fond du Champ de Mars (architecte, M. Paulin) et Couronnement du Palais de l'Electricité (architecte, M. Eug. Hénard) ;

XIX. Palais des Fils, Tissus et Vêtements (en retour, à droite du Champ de Mars) (architecte, M. V. Blavette) ;

XX. Palais des Mines et de la Métallurgie (à la suite, près de la Seine) (architecte, M. L. Varcollier) ;

XXI. Palais des Manufactures nationales et Portiques au-dessus de la Gare des Invalides (à l'entrée, à droite et à gauche de l'Esplanade) (architectes, MM. Toudoire et Pradelle) ;

XXII. Façade d'une des parties du Palais du fond de l'Esplanade des Invalides (Palais de la Céramique, des Cristaux et de la Verrerie) (architecte M. Tropey-Bailly) ;

XXIII. Partie médiane de l'Esplanade des Invalides (côté de la rue de Constantine, Palais de la Décoration et du Mobilier) (architecte, M. Esquié) ;

Et cependant, malgré le nombre et l'importance des édifices représentés, cette collection des constructions officielles est encore incomplète ; il faut y constater l'absence de vues des parties médiane et postérieure du Grand Palais des Champs-Elysées (architectes, MM. Louvet et Albert Thomas) ; de la Grande Salle des Fêtes créée dans la Galerie des Machines (architecte, M. G. Raulin) ; du Palais des Industries diverses (partie médiane de droite de l'Esplanade des Invalides (architectes MM. Larche et Nachon) ; des Palais de la Colonisation au Trocadéro (architectes, MM. Deperthes père et fils) ; du Palais des Armées de Terre et de Mer, sur la rive gauche de la Seine, près l'avenue Rapp (architectes, MM. Marcel Auburtin et G. Umbdenstock), et enfin, quoique ce dernier édifice relève directement de la Municipalité parisienne, du Palais de l'Exposition de la Ville de Paris, sur la rive droite de la Seine, près le pont des Invalides (architecte, M. U. Gravigny).

Mais, telle qu'elle est, cette collection, en partie composée de documents officiels non mis dans le commerce, forme aujourd'hui l'ensemble le plus complet qu'il soit possible de réunir des bâtiments officiels de l'Exposition de 1900, non certes tels que ces bâtiments s'offriront au visiteur le 15 avril, jour de l'inauguration, mais plutôt comme ils ont été conçus par leurs auteurs et avant les modifications que l'étude y apporte encore chaque jour, modifications dont, pour la plupart de ces édifices, les autographies, demandées dans les agences des architectes, nous diront souvent le dernier mot.

A.* Entrée monumentale sur la place de la Concorde (architecte, M. Binet). 1° Plan indiquant la disposition des guichets. 2° Coupe sur l'axe. 3° Façade montrant les grandes lignes de la construction métallique.

L'œuvre originale de M. Binet, dont la construction a si vivement intrigué les promeneurs pendant le montage des pièces formant son ossature métallique, prend aujourd'hui sa forme définitive et promet, rehaussée qu'elle sera d'effets lumineux, de produire un grand effet.

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* Ces mêmes lettres majuscules A, B, C, etc., se retrouvent marquées au crayon à l'angle droit inférieur de chaque autographie (plan, coupe, façade, détails) de chaque édifice, et les numéros 1, 2, 3, etc., accompagnant ces lettres, donnent l'ordre dans lequel elles sont cataloguées.

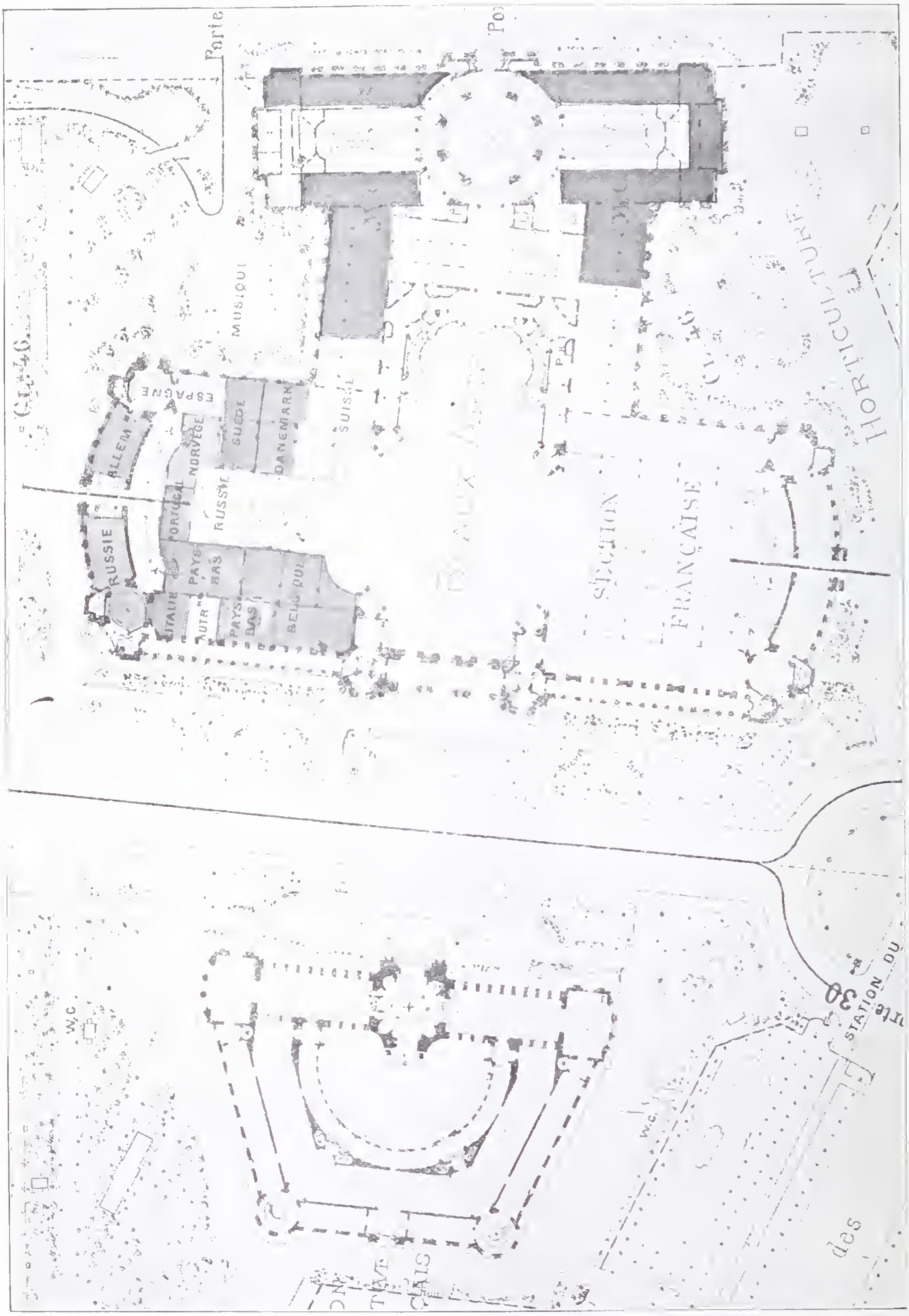


FIG. 4.—PLAN DES CHAMPS-ELYSÉES, MONTRANT LE GRAND ET LE PETIT PALAIS.

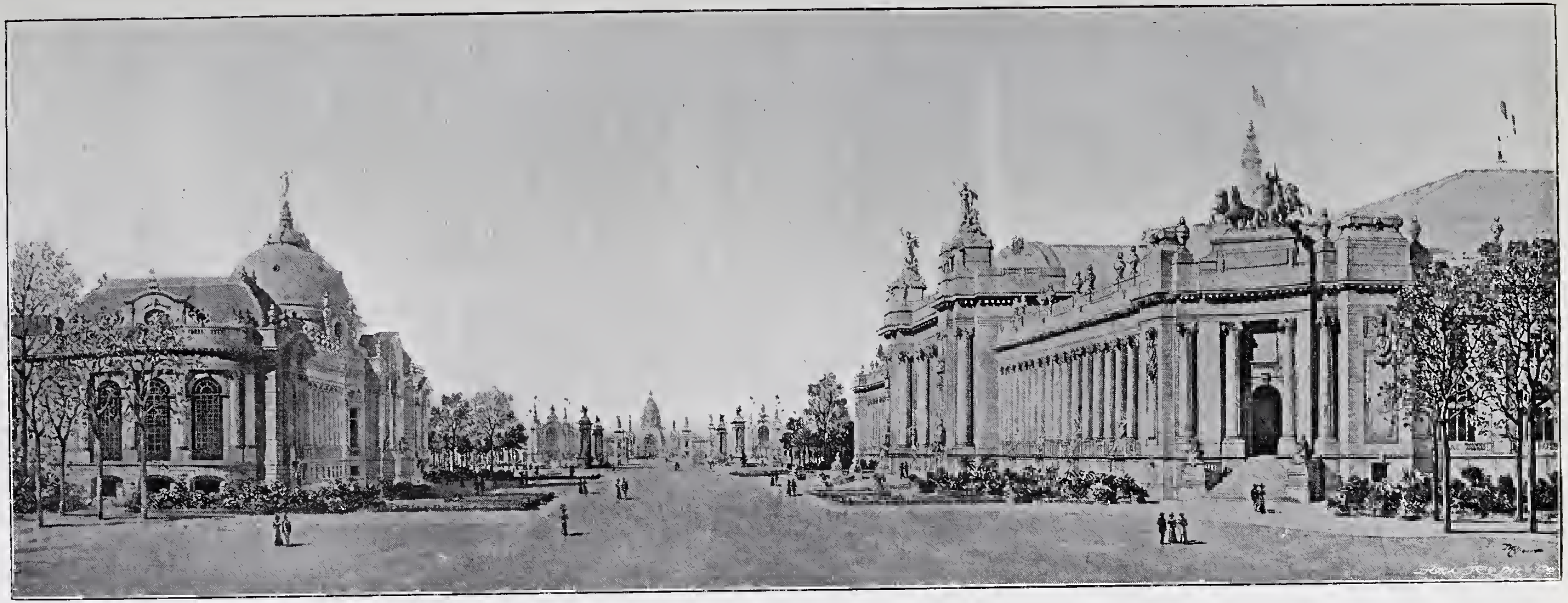
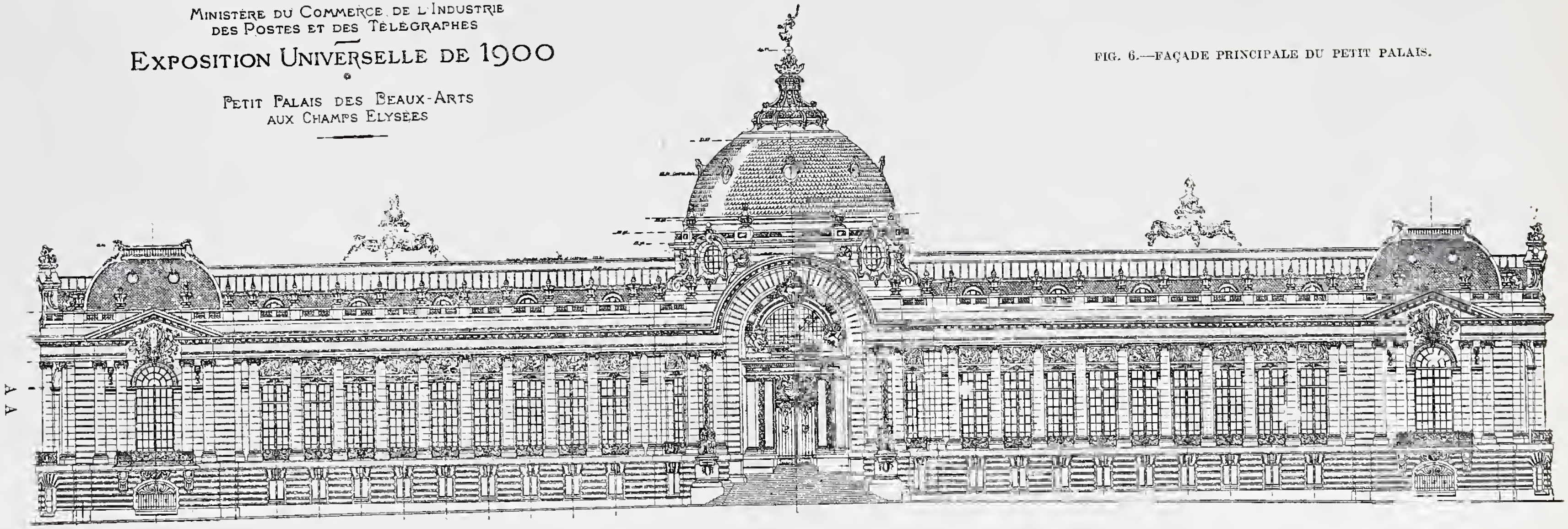


FIG. 5.—VUE PERSPECTIVE DE LA NOUVELLE AVENUE, MONTRANT LES DEUX PALAIS DES CHAMPS-ÉLYSÉES.

FIG. 6.—FAÇADE PRINCIPALE DU PETIT PALAIS.


Ministère du Commerce de l'Industrie
des Postes et des Télégraphes
Exposition Universelle de 1900
Petit Palais des Beaux-Arts
aux Champs Elysées
A A

B. Petit Palais (architecte, M. Ch. Girault). 1° Plan du soubassement. 2° Plan de l'étage principal. 3° Coupe sur AB. 4° Façade principale sur l'Avenue des Palais. 5° Façade latérale. 6° Façade postérieure.

Le Petit Palais garde, dans son exécution peut-etre encore affinée par l'étude et par d'heureuses modifications, tout le charme qui, lors du concours, séduisit le jury et le public dans le projet de M. Girault et valut à cet artiste la haute situation d'architecte en chef des deux Palais des Champs-Elysees. Partie des modifications que M. Girault a apportées à son œuvre, comme aussi partie de celles qui ont eté faites dans les projets de MM. Deglane, Louvet et Alb. Thomas, architectes du Grand Palais (voir ci-dessous, C, D, E), ont été décidées pour la mise en harmonie, apres le concours et au fur et à mesure de l'exécution définitive, du Grand Palais et du Petit Palais, destines à faire un ensemble monumental décorant la nouvelle avenue des Palais et formant avec le pont Alexandre III le legs architectural de l'Exposition de 1900. A signaler, dans ce Petit Palais, à coté d'heureuses silhouettes et de gracieux motifs de decoration, un emploi fort intéressant de ciment armé pour la construction du plancher haut de l'étage souterrain.

C. Grand Palais (partie antérieure sur l'avenue des Palais; architecte, M. Deglane). 1° Plan du rez-de-chaussée. 2° Plan du premier étage. 3° Façade principale sur l'avenue des Palais. 4° Détail de la partie milieu de cette façade. 5° Grilles et Portes en métal de la façade principale et des pylônes d'angle.

Le Grand Palais est la plus importante des constructions durables de l'Exposition de 1900, et chacune de ces trois parties, notamment les parties antérieure et postérieure, constitue à elle seule un véritable edifice. Outre la difficulté qu'il y avait à raccorder en plan les biais produits par la direction non parallele de la Nouvelle Avenue des Palais et de l'Avenue d'Antin, il en existait une autre résultant des affectations si diverses que, comme autrefois le Palais de l'Industrie aujourd'hui demoli, doit recevoir ce Grand Palais. Avec une cordiale entente dans leurs etudes, les trois architectes de cet édifice, faisant évidemment les uns et les autres abnegation d'une partie de leur sentiment artistique, ont forme un tout des plus harmonieux et dont se détachent des morceaux de valeur et bien personnels; ainsi, dans la partie antérieure, confiée à M. Deglane, la vaste loge de la façade principale et le grand hall, en charpente métallique avec dome central, hall qui forme la veritable grande Salle d'Exposition, remplaçant la grande Nef de l'ancien Palais de l'Industrie. Nous sommes heureux de joindre à ces notes, et quoiqu'il ait reçu par l'étude quelques modifications, le détail à grande échelle de la partie milieu de la façade sur l'avenue et aussi le détail des Grilles et Portes en métal de cette façade.

D. Grand Palais (partie intermédiaire; architecte, M. Louvet). 1° Façade latérale nord, détail d'une travée. 2° Perron de cette façade: plan, élévation et coupes. 3° Détail de la colonne. 4° Coupole centrale se raccordant avec le grand hall de la partie antérieure. 5° Grand Escalier: coupe transversale. 6° et 7° Développement du Grand Escalier. 8° Balustrade. 9° Décoration du fond de la nef. 10° Salle de Concert: Coupe transversale. 11° Coupe longitudinale.

En se reportant au plan d'ensemble du premier Etage du Grand Palais (celui marqué C, 2°), on voit que la partie intermédiaire de ce palais comprend un grand escalier entre trois galeries, deux d'Exposition à droite et à gauche et une troisième, au fond, devant ètre traitée en Salle de Concert. Cette partie intermediaire a deux façades, dont celle septentrionale, regardant l'avenue des Champs-Elysees, est elevée sur un perron, et les autographies D 1°, D 2° et D 3° reproduisent les details de cette façade, de ce perron et de la colonne ionique décorant cette façade; mais un des motifs les plus remarquables, non seulement du Grand Palais mais de tout l'ensemble d'œuvres conçues pour l'Exposition de 1900, est le Grand Escalier—véritable escalier d'honneur, en lequel pourront se développer de pompeux cortèges—conduisant du rez-de-chaussée à la Salle de Concert et aux Galeries d'Exposition du premier étage. L'étude consciencieuse faite du métal et particulièrement de la cornière de fer, au double point de vue de la construction et de la décoration de cet escalier, nous semble d'une grande nouveauté, comportant à la fois hardiesse et élégance, et nous a engagé a en joindre les détails (voir D 5° à D 8°) à notre envoi.

E. Grand Palais (partie postérieure ; architecte, M. Albert Thomas). 1° Plan du rez-de-chaussée. 2° Coupe sur l'axe de la façade principale. 3° Façade principale sur l'avenue d'Antin. 4° Façade latérale (côté des Champs-Elysées).

Plus que toute autre partie des Palais des Champs-Elysées, cette partie postérieure du Grand Palais forme un tout complet de grande allure, avec sa grande salle centrale, couronnée d'un dôme elliptique, avec ses grands escaliers droits, ses galeries et ses salons. Derrière l'ordre ionique qui décore sa façade principale court une haute frise émaillée, œuvre de la manufacture nationale de Sèvres, et dont le soleil couchant doit embraser les nuances diverses. Mais notre cher confrère M. Albert Thomas, depuis 1881 membre honoraire et correspondant de l'Institut royal des Architectes britanniques, où il fut présenté par feu le professeur Th. L. Donaldson, de vénérée mémoire, se réserve de faire lui-même à l'Institut l'hommage de ses études d'exécution, mises au net, et ne considère les quatre autographies qu'il m'a remises que comme un souvenir à ses confrères anglais.

F. Pont Alexandre III (architectes, MM. Cassien-Bernard et G. Cousin). 1° Plan au niveau des berges et au niveau du tablier. 2° Décoration de l'arc de rive. 3° Détail d'un pylône.

Après la vue d'ensemble du Pont Alexandre III prise du pont de la Concorde (voir cette vue, XIII) les trois autographies ci-dessus, se rapprochant beaucoup de l'exécution, doivent donner une idée exacte du considérable travail accompli par MM. Cassien-Bernard et Cousin, non seulement pour la décoration de ce pont, mais encore pour le raccordement du pont avec les murs des quais et pour la construction des culées (voir XII, la photographie d'une maquette de la construction de ces culées). Le Pont Alexandre III est certes l'œuvre durable la plus originale dont l'Exposition de 1900 verra l'achèvement, et il restera un témoignage irréfutable de la nécessité de l'alliance des architectes et des ingénieurs dans les travaux d'utilité publique. Plus qu'à toute autre construction de notre époque on peut lui appliquer avec justice la devise de l'Institut royal des Architectes britanniques : *Usui Civium, Decori Urbium.*

Mais avant de clore ces alinéas consacrés aux deux Palais et au Pont Alexandre III, les seules monuments d'art qui doivent survivre à l'Exposition ne 1900, on nous permettra de faire remarquer la riche ordonnance ionique et la grande importance des sculptures qui décorent ces palais et ce pont, faisant penser ainsi, à propos d'une Exposition Universelle, manifestation éminemment populaire et ayant lieu sous un gouvernement républicain, au faste déployé par Louis XIV dans ses résidences royales de Versailles et des autres sites des environs de Paris, et forçant à se demander si l'art n'est pas un besoin inhérent à la France, quelles que soient les institutions qui la régissent.

Ces notes et l'examen des cinquante-cinq documents qui les accompagnent nous semblent devoir occuper l'attention de nos confrères anglais pendant la partie de séance qu'ils nous ont demandé de remplir ; cependant ne serait-ce qu'à l'état de catalogue quelque peu agrémenté de commentaires, j'ai encore à faire passer sous leurs yeux beaucoup d'intéressantes études disposées, comme les précédentes, par séries et presque en nombre suffisant pour compléter le nombre des lettres de l'alphabet.

Ainsi, tout en ne relevant pas directement de la direction des travaux d'architecture de l'Exposition, le Pavillon spécial de l'Exposition de la Ville de Paris, situé sur la rive droite de la Seine, près le pont des Invalides, relève encore de M. Bouvard, comme directeur administratif des services d'Architecture de la Ville de Paris, et nous sommes heureux d'en présenter une véritable monographie.

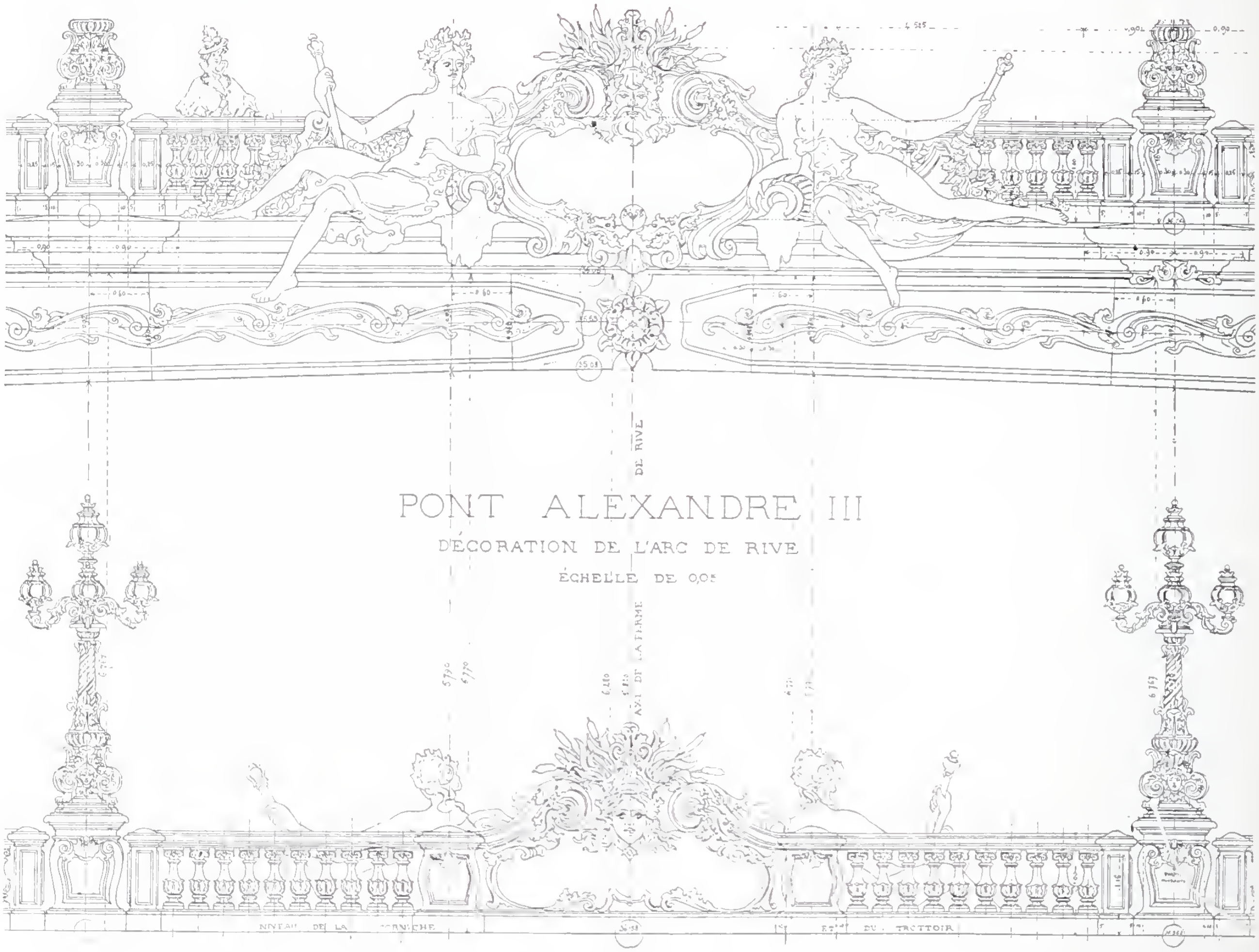


FIG. 7.

G. Pavillon de la Ville de Paris (architecte, M. Ulysse-Gravigny). 1° Plan du soubassement. 2° Plan du rez-de-chaussée. 3° Plan du premier étage. 4° Coupe transversale. 5° Coupe longitudinale. 6° Façade latérale. 7° Façade principale.

A noter, dans ce pavillon, qui couvre plus de 3,000 m. c. et offre aux divers services qui l'occuperont une surface totale de 5,000 m. c., son jardin central, la construction toute de charpente de bois, ses aménagements intérieurs comprenant galeries d'exposition, salons de réception et loggia sur la Seine ; enfin sa décoration empruntée aux souvenirs héraldiques de la municipalité parisienne, armes de la ville aux différentes époques et armes des communautés et des corporations.

H. Palais de l'Horticulture (architecte, M. Ch. A. Gautier).

Situé sur la rive droite de la Seine, à la suite du précédent, ce Palais se compose de deux grandes serres, en forme de galeries, le tout de construction métallique, avec rotonde à chaque extrémité, galeries séparées par un jardin central et dont la phototypie X donne une idée assez exacte. L'architecte de ce palais, M. Gautier, est de plus chargé de la décoration des quais et berges de la Seine dans toute la partie entre le pont des Invalides et le pont de l'Alma.

J. Palais de l'économie sociale et des Congrès (architecte, M. Mewès). 1° Plan du rez-de-chaussée. 2° Coupe longitudinale sur AB–BC. 3° Façade latérale. 4° Façade postérieure sur le Cours-la-Reine.

Les quatre autographies et la phototypie XI, donnant la façade principale de ce palais (côté de la Seine), en font bien voir les grandes et simples dispositions en plan et en façade, ainsi que le parti dominant de l'architecture. C'est dans ce palais que M. Mewès a réservé les galeries d'Expositions des Classes du Groupe de l'Economie Sociale et aussi les Salles de différentes dimensions qui seront affectées à la tenue de Congrès internationaux pendant l'Exposition de 1900, congrès parmi lesquels deux surtout, celui des Architectes (29 juillet–4 août) et celui de l'Art public (6–11 août), me semblent devoir solliciter la présence de mes confrères de l'Institut royal des Architectes britanniques.

Il nous est impossible de quitter la rive droite de la Seine sans citer, entre la Galerie Ouest de l'Horticulture et le Pavillon des Congrès, deux fantaisies non dépourvues d'architecture et très ingénieusement décorées : le Théâtre des Bonshommes Guillaume et l'Aquarium, fantaisies dues toutes deux aux mêmes artistes, M. Henri Guillaume, le maître dessinateur, et M. Albert Guillaume, architecte ; puis en suivant le cours du fleuve du pont de l'Alma au pont d'Iéna, il nous faut faire place dans ces notes à trois ensembles K, L, M, qui, au cours de nos visites, nous ont paru du plus grand mérite et devoir compter, eux aussi, parmi les grandes attractions, à la fois archéologiques et architectoniques, de l'Exposition de 1900.

K. Le Vieux Paris (restitution de M. Robida). 1° Vue d'ensemble le long de la Seine. 2° Détail de l'extrémité Ouest.

C'est, sur environ 6,000 m. c., et avec une façade de plus de 250 m. le long de la rivière, toute une ville du moyen âge, mais élevée sur pilotis et renfermant Portes et Maison commune, Tourelles, Bretèches et Maisons célèbres, Vieilles Halles et Théâtre, Grande Salle du Palais et Chapelles, Puits et Pilori, Echoppes, Boutiques et nombreuses Tavernes, le tout reproduit avec la science archéologique et aussi la fantaisie toujours en éveil de M. Robida.

L. Pavillon de la Section Egyptienne (projet Philippe F. Boulad ; architecte, M. Marcel Dourgnon). 1° Plan du Rez-de-Chaussée. 2° Coupe longitudinale sur l'Ouakala. 3° Façade principale sur l'avenue d'Iéna.

Ce pavillon, situé à droite des jardins du Trocadéro, se compose de trois parties bien distinctes : 1° un Temple de l'ancienne Egypte, comprenant avant-portique, grande porte monumentale, naos avec colonnade au pourtour, escaliers montant à l'étage supérieur et, dans le soubassement du temple, des chambres funéraires ; temple et chambres dont les motifs décoratifs sont empruntés aux plus beaux édifices de l'ère pharaonique ; 2° un Ouakala ou bazar arabe, de style arabe, avec portiques, boutiques, balcons, moucharabis et, au premier étage, sur la façade, la reproduction du remarquable Salon du Ministre de France, au Caire ; 3° un Théâtre sur plan rectangulaire, dont la façade est, comme celle du temple, de style antique égyptien, mais dont les aménagements confortables permettront au spectateur de suivre sans fatigue l'évolution de la danse sacrée dans l'ancienne Egypte.

M. Palais de la Section Algérienne (architecte, M. Albert Ballu).* 1° Plan général et plan inférieur, Coupe longitudinale, Elévation longitudinale et Elévation principale. 2° Vue perspective (côté du pont d'Iéna).

Ce palais, élevé au Trocadéro, comprend deux parties : la partie officielle, dépendant du Gouvernement général de l'Algérie, et la partie des Attractions. Dans la partie officielle, à rez-de-chaussée, modèle en relief des ruines de Timgad, exécuté sous la direction de M. A. Ballu, avec moulages, dessins, photographies et projet de restauration ; au fond, la salle des vins de l'Algérie : au premier étage, Expositions diverses Ce palais reproduit le Minaret de la Mosquée du Sultan Bacha, à Oran ; la Coupole de la Mosquée de la Pêcherie, à Alger ; la Cour mauresque de l'ancien Musée d'Alger, etc. La partie des attractions consistera surtout en une rue du vieil Alger, avec passages couverts, encorbellements, boutiques ; en un stéréorama mouvant par les peintres Francovich et Gadan, de Bône, et en un diorama de vues du Sahara et de la Kabylie.

On l'a vu, dans les renseignements statistiques transcrits en tête de ces notes, le Champ de Mars, comme aux dernières Expositions de 1867, 1878 et 1889, renfermera, dans de vastes constructions, véritables palais par leur décoration extérieure, la majeure partie des produits envoyés à l'Exposition de 1900 : aussi, de la tour Eiffel à l'ancienne Galerie des Machines, mais avec, dans l'axe longitudinal, un jardin central que termine un Château d'Eau, a-t-on édifié d'immenses halls de construction métallique de grande envergure et dont les façades, du côté du quai et sur le jardin du Champ de Mars, comme sur l'avenue La Bourdonnais et sur l'avenue Suffren, sont décorées d'avant-corps, de Loggias, de tourelles et de dômes de grand effet.

Mais, avant ces palais, au pied de la tour Eiffel à droite et à gauche du pont d'Iéna, sont disposées deux groupes de galeries moins imposantes peut-être mais bien conçues, dont l'ossature très étudiée est en charpente de bois (voir la Coupe : N, 3) et présente le caractère qui convient à des constructions destinées à disparaître : c'est par ces galeries dont l'ingénieuse décoration dit l'affectation que nous reprendrons notre Catalogue.

N. Palais de la Navigation du Commerce, des Forêts, de la Chasse, de la Pêche et des Cueillettes (architectes, MM. Tronchet et Rey) (voir phototypie XV). 1° Plan du Palais de la Navigation, du Commerce. 2° Plan du Palais des Forêts, de la Chasse, de la Pêche et des Cueillettes. 3° Coupe sur l'axe longitudinal du Grand Hall du Palais des Forêts. 4° Façade latérale (vue du pont d'Iéna) du Palais de la Navigation. 5° Façade latérale (vue du pont d'Iéna) du Palais des Forêts. 6° Façade principale (côté de la Seine) du Palais de la Navigation. 7° Façade principale (côté de la Seine) du Palais des Forêts.

Après ces Galeries de la Navigation et des Forêts, longeons le côté droit du Champ de Mars, où nous rencontrons le premier des palais proprement dits.

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* M. Albert Ballu est le fils aîné de Th. Ballu, le regretté membre honoraire de l'Institut royal des Architecte britanniques.

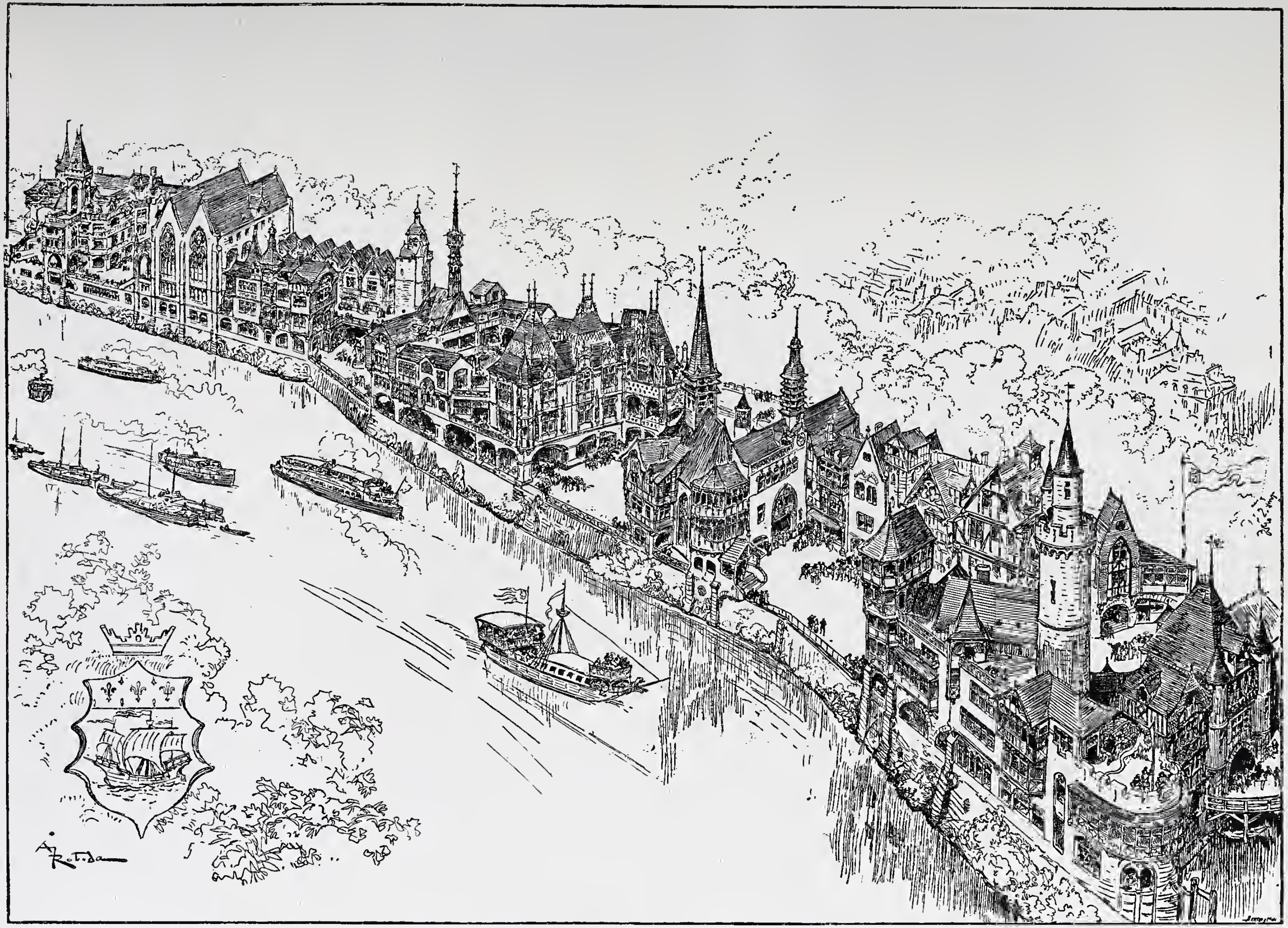

FIG. 8.—LE VIEUX PARIS.

O. Palais de l'Education, de l'Enseignement, des Instruments et Procédés généraux des Lettres, des Sciences et des Arts (architecte, M. Sortais) (voir phototypie XVI). 1° Plan à rez-de-chaussée indiquant la construction en fer. 2° Coupe transversale sur le Hall. 3° Façade sur le jardin. 4° Détail d'une travée de la façade sur le jardin. 5° Détail de la façade sur le pan coupé.

A noter dans ce palais qui, tant à rez-de-chaussee qu'au premier étage, offre aux exposants une surface totale par terre utilisable de plus de 27,000 m.c., la façade en pan coupé formée de deux tourelles et d'un vestibule à deux étages avec grande baie circulaire et balcon, le tout surmonté d'une couverture de forme particulière, une sorte de *tore* couronné d'un campanile s'élevant à environ 50^{m} ; les portiques ouverts superposés formant des loggias décorées de peintures sur chacune des façades latérales (côté du quai et côté du jardin du Champ de Mars), et de plus la construction économique, dans laquelle est fait emploi de ciment armé, construction ne revenant pas à 110f. le mètre carré couvert.

Il nous faut au reste le dire, une fois pour toutes, malgré souvent une extrême richesse décorative, la construction des palais éphémères des deux rives de la Seine, du Trocadéro, du Champ de Mars et de l'Esplanade des Invalides, a été des plus économiques, et cette économie ne serait pas un des côtes les moins utiles à étudier dans ce grand effort architectonique causé par l'Exposition de 1900 ; nous verrons même, en terminant, que cette économie, que s'était imposée le Commissariat général, a atteint jusqu'aux honoraires des architectes.

Mais revenons à notre Catalogue pour ne plus le quitter.

P. Palais du Génie civil et des Moyens de transport (architecte, M. Jacques Hermant *) (Voir phototypie XVII.) 1° Coupe transversale. 2° Façade principale (rotonde). 3° Détail du motif central à 0·05').

De larges dispositions interieures et un fort heureux sentiment d'étude de la façade sur le Champ de Mars qui a un grand caractère monumental, sont à relever dans ce palais dont l'immense détail (7^{m}00) du motif central nous a paru intéressant à comprendre dans cet envoi, non pas que des détails de cette dimension et à cette échelle soient rares dans les agences de l'Exposition, mais parce qu'il nous a paru utile de donner une idée des études faites dans ces agences, même pour des constructions éphémères. Dans la façade de ce Palais du Génie civil et des Moyens de transport, une fort belle frise, encadrée dans un motif d'architecture bien venu, est un des bon exemples offerts, dans les constructions durables ou éphémères de l'Exposition, de l'alliance toujours féconde de la Sculpture et de l'Architecture.

R. Château d'eau et Palais du matériel et des Procédés généraux de la Mécanique, des Industries chimiques, etc. (fond du Champ de Mars) (architecte, M. Paulin) (voir phototypie XVIII). 1° Plan du rez-de-chaussée du Château d'eau. 2° Plan du premier étage du Château d'eau. 3° Plan des bassins supérieur et inférieur. 4° Coupe longitudinale du Château d'eau et des bassins. 5° Façade du Château d'eau et des Galeries latérales du Palais.

Dans l'etat encore rudimentaire dans lequel se trouve encore une partie des constructions, surtout des bassins, dirigées par M. Paulin, nous préférons substituer à nos impressions, forcément incomplètes, quelques lignes qu'a bien voulu nous donner notre honoré confrère sur le Château d'eau, lequel, couronné par la Crète du Palais de l'Electricité, promet d'être, avec ce dernier, une des grandes attractions de l'Exposition.

“ Le Château d'eau, placé au fond du Champ de Mars en avant du Palais de l'Electricité, est séparé de ce dernier par une galerie qui s'étend dans la largeur du jardin et se retourne de chaque côté, en avant du Palais de la Mécanique (Avenue La Bourdonnais) et du Palais des Industries chimiques (avenue Suffren). Dans l'espace limité par ces trois côtés sont placés les bassins du Château d'eau bordés de larges rampes en pente douce, qui conduiront les visiteurs au niveau du premier étage du palais. Le motif principal du Château d'eau est formé par une vaste niche de 24^{m} de diamètre, d'où les eaux sortent de six niches et d'une grotte placée à 29^{m} au-dessus du sol de Champ de Mars. L'eau y jaillit comme d'une source, puis tombe d'une hauteur de 11^{m} pour se répandre comme un torent de vasque en vasque jusqu'au bassin inférieur qui est en même temps le réservoir des eaux nécessaires au fonctionnement des machines des Palais. L'ensemble des bassins a 120^{m} de longueur sur 67^{m} de plus grande largeur. Un cartouche, au chiffre de la République, qu'accompagnent des génies ailés, surmonte l'arc de la grande niche ; des groupes figurent les nymphes des sources, la Neige, la Glace, et symbolisent les bienfaits de l'eau. Le soir, des cordons de lumière électrique illumineront les grandes lignes d'Architecture et le cartouche, et les divers effets d'eau, cascades et jets, seront rendus lumineux et colorés de toute couleur."

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* M. Jacques Hermant, l'architecte de la Nouvelle Caserne des Célestins, à Paris, et l'architecte de la Section française à l'Exposition de Bruxelles en 1897, est le fils de M. Ach. Hermant, membre honoraire et correspondant du R.I.B.A. depuis 1885.

S. Palais de l'Electricité (architecte, M. Eug. Hénard) (voir, pour le couronnement, phototypie XVIII). 1° Plan général. 2° Plan du rez-de-chaussée. 3° Plan du premier étage. 4° Coupe suivant l'axe transversal. 5° Perspective cavalière de la Grande Salle. 6° Détail de la Superstructure de la crête. 7° Motif central de la crête décorative de la façade. 8° Détail d'une travée latérale. 9° Détails divers montrant les différents systèmes d'effets lumineux mis en œuvre pour l'éclairage de la crête. 10° Façade principale au-dessus du Château d'eau.

Pour ce palais, entouré de tous les côtés et masqué en partie par le Château d'eau, l'architecte, qui joint la science d'un ingénieur au talent d'un artiste, a consacré tout l'effort décoratif dans la partie supérieure de la salle centrale. C'est pourquoi il a donné à cette salle la forme d'une voûte trilobée encadrant la grande niche du Château d'eau. Il l'a de plus surmontée d'une large crête ajourée avec trois grands motifs centraux de façon à donner, le jour, l'impression d'une dentelle métallique se détachant sur le ciel et, la nuit, la vision d'une dentelle de feu. Au centre de cette décoration se trouve la statue symbolique de l'Electricité, traînée par deux animaux fantastiques et adossée à un soleil de métal de 13^{m} de diamètre. Au reste, toute cette crête a été étudiée pour mettre en valeur les effets variés de l'éclairage électrique et obtenir, pour le Champ de Mars, un fond de décor nouveau et d'un grand aspect. Ajoutons que la grande Salle comporte un premier étage auquel on accède par les rampes et les portiques du Château d'eau, et les nombreux détails, mis à notre disposition par M. Eug. Hénard, doivent permettre de se rendre compte de l'ensemble de son œuvre.

T. Salle des Fêtes (dans la Galerie des Machines) et Groupe de l'Agriculture et des Aliments (architecte, M. Raulin). 1° Plan général à rez-de-chaussée. 2° Plan général au premier étage. 3° Coupe sur la Salle des Fêtes. 4° Façade de la Salle des Fêtes. 5° Détail du plafond de la Salle des Fêtes.

L'Adaptation, en Salle des Fêtes, de la partie centrale de la Galerie des Machines, ce legs gigantesque de l'Exposition de 1889, sera une des créations les plus originales et, espéronsle, des plus durables, de l'Exposition de 1900. Malgré des difficultés de toute nature, dont la principale fut l'occupation, presque jusqu'à la dernière heure, de cette Galerie des Machines par les services les plus divers, Concours hippique et Salon annuel, M. G. Raulin promet de doter Paris d'une grande et belle Salle de distribution des Récompenses qui lui faisait quelque peu défaut.

B B

U. Palais des Fils, Tissus et Vêtements (architecte, M. V. Blavette) (voir phototypie XIX). 1° Plan général. 2° Façade sur le Champ de Mars.

Ce Palais, faisant pendant au Palais du Génie civil et des Moyens de transport, a avec ce palais de larges dispositions communes imposées à tous deux ; mais le Palais des Fils, Tissus et Vêtements, situé entre l'avenue La Bourdonnais et le Champ de Mars, est traversé par un grand vestibule (le vestibule Rapp) et a ses deux façades monumentales, l'une sur le Champ de Mars ; l'autre, sur l'avenue La Bourdonnais. Dans ce palais se trouveront, au rez-de-chaussée et au premier étage, avec services annexes en sous-sol et au second étage, de nombreux cafés et restaurants donnant sur une galerie de 8^{m} de large ouvrant sur le jardin du Champ de Mars. Un grand emploi de l'acier a été faite dans la construction proprement dite, laquelle est accusée dans la façade sur l'avenue La Bourdonnais, tandis que la façade sur le jardin du Champ de Mars est habillée de motifs décoratifs.

V. Palais des Mines et de la Métallurgie (architecte, M. Varcollier) (voir phototypie XX). 1° Plan du Rez-de-chaussée. 2° Coupe longitudinale. 3° Coupe sur le dôme. 4° Façade sur le Champ de Mars. 5° Façade parallèle à la Seine. 6° Façade sur l'avenue La Bourdonnais.

A signaler surtout, dans ce dernier Palais du Champ de Mars, qui décèle une grande conscience d'études, les galeries largement ouvertes sur la façade et le grand dôme monumental dont les autographies V, 3 et V, 4 donnent l'ossature intérieure et la décoration extérieure largement traitées.

Avec le Palais des Mines et de la Métallurgie de M. Varcollier, nous avons terminé notre visite rapide mais assez complète des constructions élevées au Champ de Mars sous les auspices du Commissariat Général et de la direction des travaux d'architecture de l'Exposition de 1900 ; notre butin est malheureusement moins satisfaisant pour les constructions de l'Esplanade des Invalides par lesquelles nous terminerons ces notes. Cependant on nous pardonnera, en suivant la Seine du pont d'Iéna au pont Alexandre III, au travers du Palais des nations étrangères, d'avoir répondu à l'appel de confrères amis, les architectes du Palais de la Belgique, et, m'étant laissé séduire par leurs études de l'Hôtel de ville d'Audenaerde, que construisit, vers 1530, l'architecte Van Pede et qu'ils reproduisent avec conscience ainsi que d'anciennes maisons pour en faire le Palais de la Belgique, d'avoir, à votre intention, joint quelques-unes de ces études à ce Catalogue.

W. Palais de la Belgique (architectes, MM. Acker et Maukels. 1° Plan d'ensemble. 2° Façade principale. 3° Façade sur le quai d'Orsay. 4° Façade sur la Seine. 5° Façade postérieure. 6° Détail de la façade principale. 7° Maisons anciennes accotées au Palais de Belgique, plans et détails. 8° Maisons anciennes, détails. 9° Vue perspective de l'Hôtel-de-Ville d'Audenaerde.

A l'Esplanade des Invalides, la nécessité de respecter la perspective du dôme pour laquelle ont été créés l'avenue du Palais et le pont Alexandre III, a forcé à disposer les palais des deux côtés de l'Esplanade, en laissant entre eux une avenue qui fait suite à l'avenue du Palais et au pont Alexandre III. Deux demi palais à chaque extrémité, et deux palais dans la partie médiane, occupent l'Esplanade et sont les dernières constructions que nous mentionnerons.

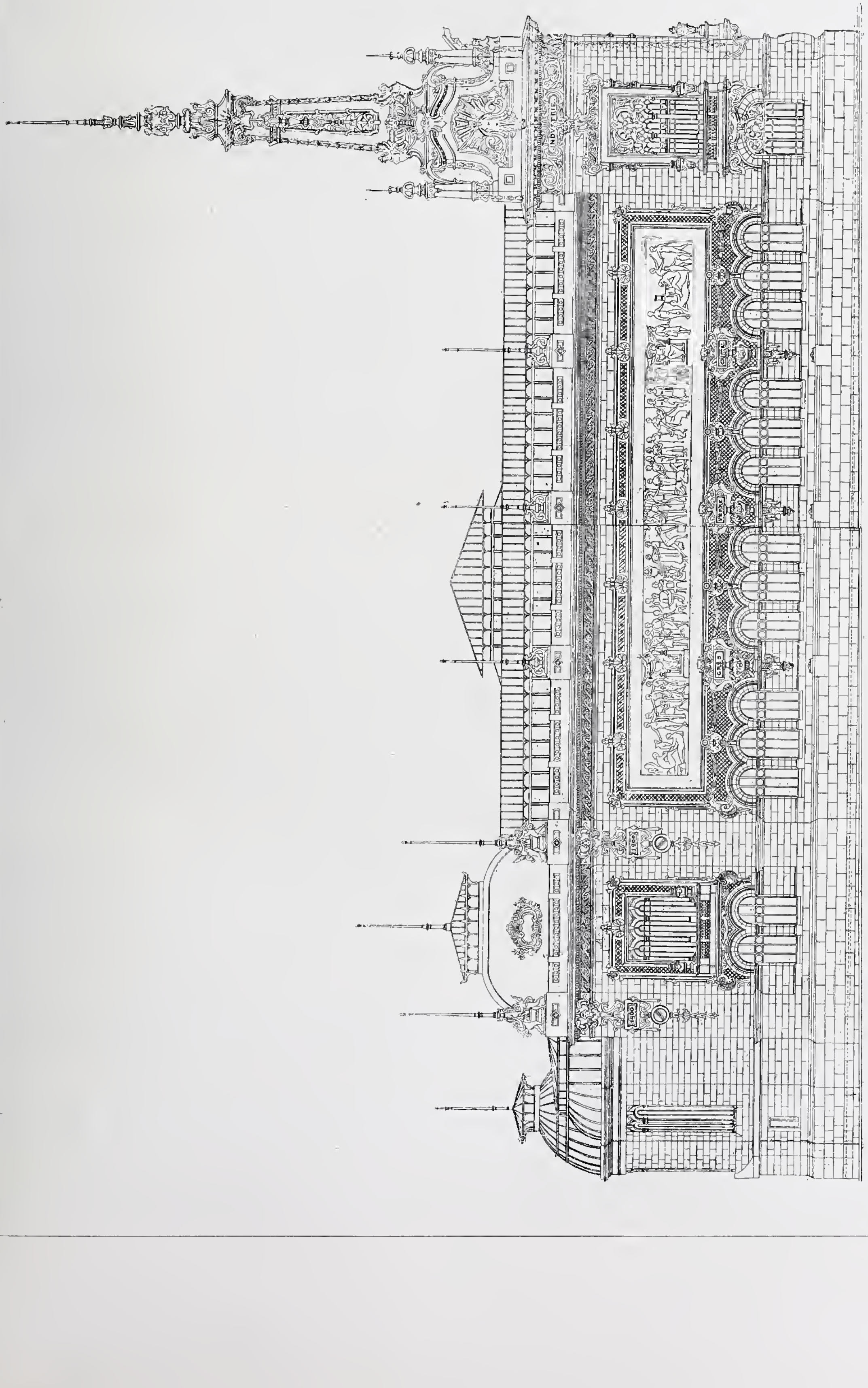

FIG. 9.—PALAIS DU FOND DE L'ESPLANADE, CÉRAMIQUE, CRISTAUX ET VERRERIE : FAÇADE REGARDANT LES INVALIDES.

X. Palais des Manufactures Nationales et Portiques sur la Gare des Invalides (architectes, MM. Toudoire et Pradelle) (Voir phototypie XXI). 1° Plan général à rez-de-chaussée. 2° Plan général au premier étage. 3° Façade des galeries sur le quai (côté de la rue Fabert). 4° Façade des Manufactures Nationales sur l'Esplanade. 5° Couronnement des grands pylônes. 6° Détail de l'angle des frontons. 7° Chapiteau des portiques.

Avec leurs larges portiques aux motifs d'architecture richement décorés, ces palais des manufactures nationales, dont nous sommes heureux de présenter quelques details d'ornementation, répondent bien à leur destination qui est d'abriter des industries de luxe et font grand honneur à MM. Toudoire et Pradelle.

Nous aurions voulu pouvoir vous faire apprécier également les deux palais de la partie médiane de l'Esplanade, dont l'un, le Palais de la Décoration et du Mobilier (architecte, M. Esquie), n'est représenté dans ce catalogue que par une Coupe longitudinale donnant une bien faible idée de son riche motif d'entrée (voir Y, 1) et par sa façade sur l'Esplanade (voir phototypie XXIII), et dont l'autre, le Palais des Industries diverses, a pour architectes MM. Larche et Nachon. Malheureusement des occupations urgentes lors de mes envois m'ont empêché d'aller chercher, dans les agences de ces architectes, les dessins que je leur avais demandés à votre intention. Cependant il faut dire ici tout le charme qui se dégage de ce dernier Palais dont l'ornementation, empruntée à la flore française et comme alanguissant les lignes de l'architecture auxquelles parfois elle se substitue, promet d'être une des œuvres les plus admirées de l'Exposition.

Avec M. Tropey-Bailly * nous avons été plus heureux et nous lui devons les derniers numéros de ce catalogue :

Z. Palais du fond de l'Esplanade, Céramique, Cristaux et Verrerie (architecte, M. Tropey-Bailly) (voir phototypie XXII). 1° Plan général du rez-de-chaussée. 2° Plan général du premier étage. 3° Façade sur la rue médiane de l'Esplanade. 4° Façade regardant les Invalides.

Dans ce palais, comme au reste dans tous les autres, s'affirme, avec la recherche de l'originalité, l'emploi de la sculpture décorative et comme motifs d'ornement, et comme motifs de couronnement, mais surtout dans une grande frise fort bien traitée sur la façade regardant les Invalides : cependant les lignes d'architecture, bien étudiées, conservent toute leur valeur au milieu de tant de richesses et laissent une réelle impression au visiteur qui quitte ce dernier palais un peu fatigué mais émerveillé d'une telle recherche et d'un tel luxe.

Là se termineront ces notes et si, à propos des Palais des Champs-Elysées, constructions qui survivront à l'Exposition de 1900, nous avons pu évoquer le souvenir du faste de Louis XIV et d'une France monarchique, des réflexions d'un tout autre ordre nous viennent à l'esprit au sujet des nombreux palais de construction éphémère qui disparaitront avec l'Exposition qui les aura vu inaugurer. Au travers de tant d'études consciencieuses au fond desquelles règne toute l'influence de l'Ecole où, sans exception, se sont formés tous les architectes de l'Exposition et leurs collaborateurs, il faut constater, surtout dans la richesse décorative et dans l'exubérance de la sculpture, comme un certain exotisme, comme un reflet de certaines architectures toutes sculptées de l'Extrême Orient ; ces palais font songer à la France coloniale et à ses œuvres d'art si différentes des nôtres.

Un dernier mot, j'ai parlé des conditions économiques dans lesquelles, malgré leur ornementation, s'élevaient les Palais du Champ de Mars, de l'Esplanade des Invalides et, en

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* M. Tropey-Bailly est le neveu de notre regretté confrère Ant. Bailly, membre honoraire et correspondant du R.I.B.A.

général, toutes les constructions provisoires de l'Exposition de 1900, et j'ai laissé entendre que cette économie atteignait jusqu'aux honoraires des architectes : vous me permettrez, messieurs, sans insister sur ce point, de rendre encore là hommage à mes confrères français en transcrivant à ce sujet quelques lignes d'un Rapport officiel adressé à M. le Président de la République :

"Conformément aux précédents, écrit M. le Ministre du Commerce et de l'Industrie, les indemnités attribuées au personnel technique sont fixes et relativement peu élevées. . . . En possession d'un talent éprouvé, parvenus la plupart à la réputation, les chefs d'agence trouveraient facilement dans les travaux particuliers une rémunération bien supérieure. L'ardeur avec laquelle ils se consacrent au service de l'État n'en est que plus méritoire." *

Il me reste, monsieur le Président, messieurs et honorés Confrères, à vous remercier de l'attention que vous avez bien voulu prêter à cette longue présentation de reproductions des œuvres en cours d'achèvement pour l'Exposition de 1900 et, pensant à l'importance que l'Institut royal des Architectes britanniques a toujours attachée aux divers modes de manifestation du dessin d'architecture, soit dans des mémoires comme celui publié, il y a quelques années, par mon ancien camarade de l'Ecole des Beaux-Arts de Paris, M. Richard Phéné Spiers, soit dans des adresses aux Etudiants, comme celle prononcée, à cette même place, il y a quinze jours, par l'honoré Président de cet Institut, je souhaite que la vue de cet ensemble de documents soit de quelque utilité pour nos jeunes confrères anglais, élèves de cet Institut.

DISCUSSION OF M. LUCAS' PAPER.

The President, Mr. William Emerson, in the Chair.

Mr. F. C. PENROSE, F.R.S. [*Past President*], said he rose with the very greatest pleasure to propose their most deep and cordial thanks to M. Lucas for his admirable address, and for the very great pains he had taken to bring the subject before them so fully, and with such beautiful and profuse illustrations. M. Lucas was indeed a model Corresponding Member of the Institute. He (Mr. Penrose) had himself received much kindness from him when in Paris, and he was sure M. Lucas had a cordial pleasure in considering himself a member of this Institute. He (Mr. Penrose) had not studied the subject of the French Exhibition Buildings sufficiently to treat of them in detail; he would therefore confine himself to proposing a most hearty vote of thanks from the Institute to M. Lucas.

Mr. H. HEATHCOTE STATHAM [*F.*] said he had the greatest pleasure in seconding the vote of thanks proposed by Mr. Penrose, from three different motives: first, a personal motive, for he was happy to say that he might call M. Lucas an old acquaintance, and one who had often assisted him by his communications from Paris; also because, as they all knew, he had been an excellent friend to the Institute, and they were much indebted to him for many interesting communications; and further, because they had to thank him for an extraordinarily elaborate survey of the Exhibition that was coming on in Paris this year, and for the trouble he had been put to in bringing such a splendid collection of illustrations before them. Although the tastes of countries differed, and all that was admired by the French in detail was not exactly what was admired in this country, yet we should all feel perhaps that the French might be just as right as we were, and that at all events there could be no question about the extraordinary spectacle which was displayed by this enthusiasm for Art in getting up such elaborate buildings for a temporary exhibition. Here were buildings the majority of which were simply to be put up for about a year, and yet the first architects and artists of the day, and sculptors as well, were employed upon them, and the greatest efforts were being made to make these temporary buildings not merely shelters for the works they were to contain, but objects of artistic interest, beauty, and suggestiveness in themselves. That was a

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* Rapport de M. Henry Boucher, Ministre du Commerce et de l'Industrie, en date du 10 juin 1898, Paris, Impr. nat., p. 7 (non mis dans le commerce).

very remarkable spectacle, and one that might serve as a lesson to them, not so much perhaps to architects as to the English public and the English Government, which in these things generally did not take the trouble to go to the best architects of the day. The series of drawings brought together by M. Lucas would be inspected by members with the greatest interest, and those who visited the Exhibition when opened would do so with greater interest and better knowledge of its contents from M. Lucas' highly interesting paper and its illustrations. They all owed their most hearty thanks to M. Lucas for the trouble he had taken, and for the eloquent and comprehensive description he had given them.

The SECRETARY asked to be permitted to state that the drawings presented through M. Lucas by the architects of the Exhibition numbered 137 altogether, that they were really a gift to the Institute, and would remain with them as a permanent possession.

The PRESIDENT, addressing M. Lucas in French, expressed the appreciation of the Institute for his most admirable and interesting lecture, and warmly thanked him for all the pains he had taken to prepare and deliver it to them, and for the magnificent collection of drawings his good offices had secured for the Institute. Addressing the meeting, the President, continuing in English, said that M. Lucas' Paper was a most exceptional one. He had given an enormous amount of time and trouble to get up the details of the complicated buildings being erected in Paris at the present moment, and they could only give him their warmest and heartfelt thanks for his exceedingly lucid descriptions and explanations, and not least for the very valuable present of drawings he had collected for them. With regard to the subject of the lecture, there were one or two points which he might mention. First, in speaking of the tendencies of the French school of architects, M. Lucas said that these buildings clearly showed the intense interest they felt in their work. Mr. Statham had remarked upon this, and upon the enormous amount of trouble they were willing to go through merely for ephemeral buildings. This, they should note, was done also in America at the World's Fair at Chicago. Looking at the drawings of the Exhibition, he could not help thinking that the French had not put their heads together in the same way as the Americans did at the Chicago Exhibition. The Chicago Exhibition buildings made one magnificent whole—a homogeneous collection of buildings, designed on certain lines which formed one of the most magnificent spectacles ever seen in the world. He certainly had never seen a finer. Looking at the drawings of the French buildings, one could not help feeling that there was rather more of ornament than of architecture, and that they were somewhat disjointed in design. He might be wrong, but that was his impression. No doubt, however, the *tout ensemble* would be very fine when seen complete. In another point the French architects were doing as the Americans had done at Chicago—that is to say, three or four architects had joined together to produce a design for the great permanent palace, putting their own personal bias on one side, with the view of securing a design which would be collectively suitable. That was a great point to be considered, and from which they might learn something in London at the present moment, when important Metropolitan improvements were being made. Surely it might be an advantage if architects were to put their heads together and produce collectively one well-considered scheme in connection with these important London improvements, rather than that every architect should design on a separate plot separate buildings totally inappropriate as neighbours and producing a disjointed general effect. Another point he would mention was the use of sculpture in the bridge Alexandre III, and that architects and engineers had worked together on it. That was a lesson they should take to heart in London. M. Lucas, again, had mentioned incidentally a matter which he (the President) had referred to in his Address to Students—viz. that science and art nowadays must go hand in hand together where buildings were concerned. M. Lucas particularly drew attention to the fact that the architect who designed the Electrical Buildings was not only a scientist but an artist. Finally, he might mention on the question of remuneration that he noticed that architects in Paris were no better paid than their brethren on this side the Channel.

The vote of thanks to M. Lucas was then formally put, and carried by acclamation. Upon the motion of the President a hearty vote of thanks was similarly passed to M. Bouvard, the Director of the Architectural Works of the Exhibition, and Architect to the Town of Paris, and to all the architects who had joined in presenting the collection of drawings to the Institute.

[TRANSLATION OF THE FOREGOING PAPER.]

NOTES ON THE PALACES OF THE PARIS EXHIBITION, 1900.

By CHARLES LUCAS [*Hon. Corr. M., Paris*].

MR. PRESIDENT, GENTLEMEN, AND HONOURED COLLEAGUES,—

My honoured French Colleague, your Hon. Corr. Member, Monsieur Alfred Normand, member of the Institute of France, President of the Société Centrale des Architectes français and of the Committee of Organisation of the International Congress of Architects at Paris in 1900, has desired me to present to his honoured English colleagues the best compliments of his French brethren.

About a year ago the Secretary of the Institute acquainted me with the efforts that were being made by members of the Institute in high position to influence public opinion, which is always so powerful, in order to obtain from the London County Council the collaboration of an architect in the design for a new bridge over the Thames, my honoured English colleagues, true followers of the late regretted John Ruskin, rightly feeling that every artistic feature which adorns a utilitarian structure tends towards the beautifying of the town and the education of the public taste.

At that time a letter was published in the Institute JOURNAL in which, by way of corollary to such noble considerations, I treated summarily of a similar question that had arisen in France * over the construction of the Pont Alexandre III across the Seine at Paris, which connects the new Avenue des Palais des Champs-Elysées with the Esplanade des Invalides.†

And some time afterwards I felt a real satisfaction, mingled with a little national pride, in taking your Secretary to the architects' offices and over the work-yard of the Pont Alexandre III, and in passing before his eyes and through his hands the considerable mass of plans, perspectives, even water-colour drawings and models, in which lay the design of the architects, MM. Cassien-Bernard and G. Cousin, for the decoration of the Pont Alexandre III, the scientific work of MM. Résal and Alby, engineers of the Ponts et Chaussées.

It was then that, always anxious to secure for your meetings an interesting variety of documents, sought for from all parts of the vast British Empire, and also from nations in which the building art flourishes in our days, your Secretary asked me for a few notes, and if possible a few illustrations, relating to the palaces in course of construction that were to house the coming Universal International Exhibition of Paris, 1900.

Desirous of paying, according to my capacities, my debt of gratitude to the Royal Institute of British Architects, which did me the great honour to place me on the list of its Honorary Corresponding Members so far back as January 1881, I undertook, somewhat lightly I must confess, to grant this request, not suspecting the scope that would necessarily have to be covered, even cursorily, by a study of the numerous and varied structures occupying a vast site, to-day forming but one great work-yard, and comprising a part of the Champs Elysées and of both banks of the Seine, the Trocadéro, the Champ de Mars, the Esplanade des Invalides, and in addition, but at the other end of Paris, a part of the Bois de Vincennes.

M. J. Bouvard, the Director of Architectural Works of the Exhibition, rendered my task particularly easy by giving me, with the consent of M. Alfred Picard, the General Commissioner, an official note requesting the architects under his administrative control to furnish me with whatever documents they could spare in view of this Paper that I was preparing at your invitation; and we shall see later on what documents he handed me personally, through his son and his secretary, our young colleague, M. Roger Bouvard, to be placed among the records in your Library. But I think it would be useful now to give you some information on the Exhibition of 1900 as a whole—information communicated to me with the authorisation of M. Chardon, the General Secretary, by M. Bonnier, chief architect of the installations.

The whole superficial area occupied in Paris by the Exhibition will be from 112 hectares (1,120,000 square mètres), being thus apportioned:—

Champ de Mars	50
Trocadéro	16
Esplanade des Invalides	12
Champs-Elysées	15
Quays on the left bank	9·50
Quays on the right bank	9·50
Total	112·00

to which must be added 110 hectares (1,100,000 square mètres) provisionally taken from the Bois de Vincennes and devoted to special exhibitions, various sports, houses for the working classes, &c.

The 19 hectares on the quays of Paris extend a total length of 4 kilomètres, 500 mètres; that is to say, 2 kilomètres, 250 mètres along each bank of the Seine.

The superficial area covered in will not be less than 45 hectares (exactly 450,000 square mètres), being apportioned thus:

French section: Palaces and administration buildings	250,000
Foreign section: Palaces and administration buildings	170,000
Bois de Vincennes	32,000
Total	452,000

The private buildings of the foreign sections, arranged along the left bank of the Seine, will occupy a superficial area of more than 50,000 square mètres.

And besides these figures, which have certainly an eloquence of their own, we must further count 100 French pavilions, numerous restaurants, kiosques, cafés and drinking-bars, as well as 75 pavilions or foreign edifices beyond the official pavilions of the nations represented at the Exhibition, which number 36.

According to the calculations made under the direction of M. Résal, the chief engineer in the metal construction department, the total weight of iron and steel employed in the French official palaces alone amounts to 50,000 tons; and for the motive power and the electric lighting there has been provided a total force of 20,000 horse-power, which can in case of need be brought up to 40,000. Finally, the power of the cranes used is 425 tons.

In spite of the fact that many of the materials for construction and decoration arrive ready for use, the permanent staff of workmen, which includes many carpenters and ironworkers, amounts on an average to 5,000 men a day.

A last piece of statistical information: more than 4,000 persons belong to the numerous committees of admission and installation, and this figure is further increased by the number of members of the committees of organisation of about 160 congresses, which are at the present moment booked to hold their meetings during the Exhibition.

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* *Journal*, Third Series, Vol. VI., No. 9, 11th March 1899, p. 277.

† A large detail of the single arch of the Pont Alexandre III and a view of one of the four pylons at the extremities of this bridge figure among the drawings accompanying these notes.

Before giving any general sketch of the buildings I may touch upon a professional question of the greatest interest to architects, and one which is always under discussion, *i.e.* that of *Public Competitions*, the principle of which seems to have received a striking consecration through the distribution of the great works of the Exhibition.

The twenty-three work-yards, under the general supervision of the Architectural Department of the Exhibition, have at their head twenty-three architects, all premiated in the two competitions held in view of the erection of the two palaces in the Champs Elysées,* and these architects, among whom are seven former students of the Academy of France at Rome,† are surrounded by colleagues chosen by themselves among old fellow-workers in *ateliers*, the Ecole des Beaux-Arts or the *Loges*,‡ that is to say, among old pupils of the same masters, who have long shared in the same artistic struggles.

You will pardon, gentlemen, these observations, which have at least the interest of showing the French official buildings of the Universal Exhibition of 1900—whether they are the two Palaces permanently erected in the Champs Elysées, or the ephemeral palaces on the Champ de Mars or the Esplanade des Invalides—as a resultant, if not of the tendencies of the French school of architecture, at least of the methods of study of the students of the school; and the numerous plans and drawings which I have been able to glean, so as to put them at your disposal, often among hundreds of others in the various offices of the architects connected with the designing of the French palaces, seem to me more capable than any other documents of giving you a fairly exact idea of the great artistic efforts lavishly expended by my French colleagues, whether they have to build a permanent work like the two palaces in the Champs Elysées, which are intended for Fine Art Exhibitions, or whether they have to build an ephemeral structure which will be inaugurated on the 15th April 1900, and demolished immediately after the 16th November.

After these general considerations, since I cannot pretend to analyse for your information in the course of a single meeting the innumerable artistic and constructional points of interest which swarm in all these buildings—the Great Palace and the Small Palace in the Champs Elysées, the Pont Alexandre III, the palaces and galleries of the Exhibition on the banks of the Seine, the Trocadéro, the Champ de Mars and the Esplanade des Invalides—I must fall back upon a language universally understood by all, and particularly by architects, *i.e.* that of design, and shall draw your attention to perspective views and geometrical projections (plans, sections, and elevations) of the majority of these buildings, so that you may be able to form a fairly correct idea of them, in spite of the changes which study brings about every day, and will go on bringing about till the very last hour.

From a general point of view, the collection, which has been got together through the kind assiduity of M. Bouvard, and which he desires me to present to you in his name, forms as it were a synthetic summary of the principal buildings—of nearly all the official buildings of the Exhibition—and ought to be examined here before any description, however brief, of the details of each of these buildings.

This collection comprises:

1°. *Three general plans.*

I.* Plan of the whole of the Exhibition.

II. Plan of the Champ de Mars.

III. Plan of the Esplanade des Invalides.

2°. *Three photographs.*

IV. Reduction of the general plan.

V. Bird's-eye view taken from the main entrance to the Exhibition (the monumental gateway erected at the S.W. angle of the Place de la Concorde, the Seine and the Cours-la-Reine), a view showing the general mass of the buildings.

VI. Bird's-eye view showing the new Avenue des Palais. The avenue starts from the Champs Elysées and, crossing the Pont Alexandre III, leads into the Esplanade des Invalides; the central portion of the esplanade will be converted into a garden after the Exhibition.

3°. *Seventeen phototypes.*

VII. Monumental gateway, Place de la Concorde (architect, M. Binet).

VIII. The Small Palace (architect, M. Ch. Girault, chief architect of the two Palaces of the Champs Elysées).

IX. Perspective view of the new Avenue, with a perspective view to the right of the façade of the front portion of the Great Palace on this avenue (a part of the Great Palace, the architect of which is M. Deglane).

X. Palace of Horticulture, on the right bank of the Seine after the Pont des Invalides (architect, M. Ch. A. Gautier).

XI. Palace of Congresses and Social Economics, next to the foregoing, near the Pont de l'Alma (architect, M. Mewès).

XII. Photograph of a model of the construction of the abutments and pylons at each end of the Pont Alexandre III (chief engineer, M. Résal; engineer, M. Alby; architects, MM. Cassien-Bernard and G. Cousin).

XIII. View of the Pont Alexandre III, taken from the Pont de la Concorde.

XIV. View of the banks of the Seine, taken from the Pont des Invalides (this view follows the foregoing).

XV. General view of the Palaces of Navigation, Commerce, and Woods and Forests (architects, MM. G. Tronchet and A. Rey). The view is taken from the middle of the Pont d'Iéna, and shows in the background the Tour Eiffel and the Palaces of the Champ de Mars, with the top of the Palais de l'Eléctricité beyond.

XVI. Façades of the Palace of Education, Teaching and general processes of Letters, Science and Art

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* Certain work-yards have two architects at their head, several competitions having provided for two architects to be associated in the same scheme.

† The old Students of the Academy of France at Rome are, in their order of seniority as Laureates of the first Grand Prize of Architecture: MM. Albert Thomas (1870), Paulin (1875), V. Blavette (1879), Ch. Girault (1880), Deglane (1881), Esquié (1882), Sortais (1890); but others (MM. Cassien-Bernard, J. Hermant, Louvet, Varcollier, Deperthes fils, and Marcel Auburtin) have obtained the second grand prize or honourable mention; and finally, the others, for the most part "loge" companions of the first, count among the most brilliant students of the Ecole des Beaux-Arts.

‡ This expression, like *logistes*, which is used to designate the competitors for the Grand-Prix de Rome, is derived from the fact that the competition, which lasts a hundred days, is held in "loges" or small separate chambers at the school itself.

* The following twenty-three numbers in Roman figures will be found on the right-hand bottom corner of each of the twenty-three plates forming the first portion of the Catalogue of the Illustrations to this paper.

(right angle of the Champ de Mars) (architect, M. Sortais).

XVII. Palace of Civil Engineering and Methods of Transport (following the foregoing) (architect, M. J. Hermant).

XVIII. Château d'Eau and Palace at the further end of the Champ de Mars (architect, M. Paulin), and the top of the Palace of Electricity (architect, M. Eug. Hénard).

XIX. Palace of Woven Fabrics (returning, on the right of the Champ de Mars) (architect, M. V. Blavette).

XX. Palace of Mines and Metallurgy (next, near the Seine) (architect, M. L. Varcollier).

XXI. Palace of National Manufactures, and Porticoes above the Gare des Invalides (at the entrance, to the right and left of the Esplanade) (architects, MM. Toudoire and Pradelle).

XXII. Façade of one of the portions of the Palace at the further end of the Esplanade des Invalides (Palace of Ceramics, Crystals and Glasswork) (architect, M. Tropey-Bailly).

XXIII. Middle portion of the Esplanade des Invalides (next the Rue Constantine, Palace of Decoration and Furniture) (architect, M. Esquié).

And yet, in spite of the number and importance of the buildings represented, this collection of official structures is still incomplete. I must note the absence of views of the central and rear portions of the Great Palace of the Champs Elysées (architects, MM. Louvet and Albert Thomas); the Grande Salle des Fêtes in the Machine Gallery (architect, M. G. Raulin); the Palace of Various Industries (right centre portion on the Esplanade des Invalides) (architects, MM. Larche and Nachon); the Palaces of Colonisation at the Trocadéro (architects, MM. Deperthes & Son); the Palace of Military and Naval Forces, on the left bank of the Seine, near the Avenue Rapp (architects, MM. Marcel Auburtin and G. Umbdenstock); and lastly, although the Municipality of Paris are directly responsible for this building, the Palace of the Exhibition of the Town of Paris, on the right bank of the Seine, near the Pont des Invalides (architect, M. U. Gravigny).

But such as it is, this collection, partly composed of official documents not publicly obtainable, forms to-day the most complete set that it is possible to get together of the official buildings of the Exhibition of 1900—not indeed as these buildings will appear to the visitor on the 15th April, the day of the inauguration, but rather as they have been conceived by their authors and before the modifications which study is still necessitating every day—modifications of which the plans, &c., obtained from the various architects' offices will often say the last word in the case of the majority of these buildings.

A. Monumental gateway on the Place de la Concorde (architect, M. Binet).*—(1°) *Plan indicating the arrangement of turnstiles.* (2°) *Section through axis.* (3°) *Elevation showing the main lines of the metal construction.*

The original work of M. Binet, the construction of which has been so much criticised by passers-by while the parts forming its metallic framework were being raised, is now taking its definite form and promises to produce a great effect, enhanced as it will be by illumination.

B. The small palace (architect, M. W. Girault).—(1°) *Plan of basement.* (2°) *Plan of principal story.* (3°) *Section on A B.* (4°) *Main elevation on the Avenue des Palais* (5°) *Side elevation.* (6°) *Rear elevation.*

The small palace retains in its execution—perhaps further refined by thought and happy modifications—all the charm which captivated the jury and the public at the time of the competition, and procured for the artist the high distinction of the position of chief architect of the two Palaces of the Champs Elysées. Some of the modifications which M. Girault brought into his work, as also some of those made in the schemes of MM. Deglane, Louvet and Alb. Thomas, architects of the great palace (see below, C, D, E), have been decided upon gradually during the course of actual building, for the sake of harmony between the great and small palaces, which are intended to make a monumental whole, ornamenting the new Avenue des Palais and forming, together with the Pont Alexandre III, the architectural legacy of the Exhibition of 1900.

It is worth while noting, besides the charming outlines and graceful decorative features, a very interesting employment of cement with iron ties for the construction of the upper flooring of the basement story.

C. Great palace (front portion, on the Avenue des Palais; architect, M. Deglane).—(1°) *Plan of ground floor.* (2°) *Plan of first floor.* (3°) *Front elevation on the Avenue des Palais.* (4°) *Detail of the middle portion of this façade.* (5°) *Metal work grills and doors of the main front and of the corner pylons.*

The Great Palace is the most important of the permanent constructions of the Exhibition of 1900, and each of these three portions, especially the front and rear, combines in itself a complete edifice. Besides the difficulty in combining on plan the bias produced by the non-parallel direction of the new Avenue des Palais and the Avenue d'Antin, there are other non-parallel boundaries to the site which has to contain this Great Palace as it did the Palais de l'Industrie now pulled down. With cordial mutual understanding in their designs, the three architects of this building, each evidently making a sacrifice of some of his artistic idea, have contrived a completely harmonious whole, in which stand out portions of great architectural value and instinct with individuality—for instance, in the front portion, entrusted to M. Deglane, the vast loggia of the main front, and the great hall of metal construction with a central dome, which forms the real great hall of the Exhibition, replacing the great nave of the Palais de l'Industrie. Although it has received some modifications, we are happy to add to these notes the detail to large scale of the middle portion of the Avenue front, and also the details of the open metal work of this front.

D. Great Palace (Central Block; architect, M. Louvet).—(1°) *North elevation, detail of a bay.*—(2°) *Flight of steps to this front, plan, elevation, and sections.* (3°) *Detail of the columns.* (4°) *Central cupola, harmonising with the great hall in the anterior block.* (5°) *Grand staircase, transverse section.* (6° *and* 7°) *Development of grand staircase.* (8°) *Balustrade.* (9°) *Decorations of back of nave.* (10°) *Concert hall; transverse section.* (11°) *Longitudinal section.*

Referring to the plan of the whole of the first story of the Great Palace (C, 2) we see that the central portion of this palace contains a great staircase between three galleries, two, right and left, for exhibits, and the third, at the back, for a concert hall. This central block has two fronts, of which the northern, fronting the Avenue des Champs Elysées, is raised upon a podium, and the drawings D 1, 2, and 3 reproduce the details of this front, this podium, and the Ionic order on this front; but one of the most remarkable features, not only of the Great Palace, but of the whole series of works conceived for the Exhibition, is the grand staircase—a real staircase of honour for the most stately ceremonials—leading from the ground floor to the concert hall and the exhibit galleries of the first story. The conscientious study in metal, and particularly of the iron gutter, seems to us, from the double point of view of construction and decoration, of great novelty and combining both boldness and elegance, and has led us to add the details (D, 5 and D, 6) to our collection.

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* The capital letters A, B, C, &c., are marked in pencil at the right-hand bottom corner of each drawing (plan, section, elevation, details, &c.) of each building, and the numbers 1°, 2°, 3°, &c., accompanying these letters give the order in which the drawings relating to the same building are catalogued.

E. Great Palace (rear portion; architect, M. Albert Thomas).—(1°) *Plan of ground floor.* (2°) *Section through axis of main front.* (3°) *Main elevation on Avenue d'Antin.* (4°) *Side elevation on Champs Elysées.*

More than any other portion of the palaces on the Champs Elysées this rear portion of the Grand Palace forms a complete and fascinating whole, with its great central hall, crowned by an elliptic dome, with its straight staircase, its galleries, and its saloons. Behind the Ionic order which decorates the main front runs a high enamelled frieze, the work of the national manufactory of Sèvres, whose varied tones will be lit up by the setting sun. But our dear colleague M. Albert Thomas, who has been an Hon. Corr. Member of the Institute since 1881, when he was proposed by the late Professor Donaldson, of venerated memory, reserves the right of himself presenting the Institute with the whole of his studies, and only regards the four drawings which he has given to me as a souvenir for his English colleagues.

F. Pont Alexandre III (architects, MM. Cassien-Bernard and G. Cousin).—(1°) *Plan at the level of the shore and at the level of the roadway.* (2°) *Decoration of the arch.* (3°) *Detail of a pylon.*

After the general view of the bridge, taken from the Pont de la Concorde (view XIII.), the three drawings above mentioned, which are very close to what has been carried out, give an exact idea of the considerable work accomplished by MM. Cassien-Bernard and G. Cousin, not only in the decoration of the bridge, but also in harmonising the bridge with the walls of the quays and the construction of the abutments (see XII., the photograph of a model of the construction of these abutments). This Pont Alexandre III is certainly the most original permanent work whose completion will be seen by the Exhibition of 1900, and it will remain an irrefutable witness to the necessity of the alliance between architects and engineers in works of public utility. More than to any other structure of our time can we justly apply to it the motto of the Royal Institute of British Architects, *Usui Civium, Decori Urbium.*

But before closing these notes, devoted to the palaces and the Pont Alexandre III, the only artistic monuments which are to survive the Exhibition of 1900, allow me to point out the rich Ionic order and the great importance of the sculpture which decorates these palaces and the bridge; we are thus brought to think *à propos* of a universal exhibition—an eminently popular manifestation, and taking place under a republican government—of the pomp displayed by Louis XIV. in his royal residences at Versailles and elsewhere in the environs of Paris, and we are led to ask ourselves whether art is not an essential need of France, whatever may be the institutions in force for the time.

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These notes and the examination of the 55 documents accompanying them seem as if they ought to occupy the attention of my English colleagues during all the time at my disposal at the present meeting; however, were it only by way of a catalogue somewhat augmented by a commentary, I have still to show you many interesting studies grouped, like the foregoing, in series, and in number almost sufficient to complete the number of letters in the alphabet.

Thus, without referring directly to the administration of architectural works of the Exhibition, the special pavilion of the Town of Paris, situated on the right bank of the Seine, near the Pont des Invalides, still concerns M. Bouvard as administrative director of the architecture of the Town of Paris, and I am happy to be able to put before you some original working drawings.

G. Pavilion of the Town of Paris (architect, M. Ulysse Gravigny).—(1°) *Plan of basement.* (2°) *Plan of ground floor.* (3°) *Plan of first floor.* (4°) *Transverse section.* (5°) *Longitudinal section.* (6°) *Side elevation.* (7°) *Front elevation.*

Note in this pavilion, which covers more than 3,000 square mètres, and offers to the various departments that will occupy it a superficial area of 5,000 square mètres, its central garden, its entire timber construction, its internal arrangements, comprising exhibit galleries, reception rooms, and loggia overlooking the Seine, and finally its scheme of decoration, borrowed from the heraldic memories of the municipality of Paris, the arms of the town at various periods, and those of communities and corporations.

H. Palace of Horticulture (architect, M. Ch. A. Gautier).

Situated on the right bank of the Seine, following the foregoing, this palace is composed of great glass-houses in the form of galleries, the whole of metal construction, with a rotunda at each end, the galleries being separated by a central garden; the phototype X gives a fairly exact idea of this. The architect of this palace, M. Gautier, is moreover responsible for the decoration of the quays and slopes of the Seine between the Pont des Invalides and the Pont de l'Alma.

J. Palace of Social Economics and Congresses (architect, M. Mewès).—(1°) *Plan of ground floor.* (2°) *Longitudinal section on AB–BC.* (3°) *Side elevation.* (4°) *Rear elevation on the Cours-la-Reine.*

These four drawings and the phototype XI., giving the main front of this palace (towards the Seine), show clearly the broad and simple arrangements in plan and elevation as well as the dominant principle of the architecture. It is in this palace that M. Mewès has placed the exhibit galleries for the classes in the group of Social Economics, and also the rooms of various dimensions which will be reserved for the international congresses that will be held during the Exhibition of 1900; among which congresses two especially, the Congress of Architects (29th July–4th August) and the Congress of Public Art (6th–11th August), seem to invite the presence of my colleagues of the Royal Institute of British Architects.

It is impossible for us to leave the right bank of the Seine without mentioning two fanciful erections between the West Gallery of the Palace of Horticulture and the Pavilion of Congresses, which are not devoid of architecture and are very ingeniously decorated; the Théâtre des Bonshommes Guillaume and the Aquarium, both the fantastic work of the same artists, M. Henri Guillaume, the designer, and M. Albert Guillaume, the architect. Then, following the course of the river from the Pont de l'Alma to the Pont d'Iéna, we must give a place in these notes to three special features, K, L, M, which during the course of my visits have appeared to me of the greatest merit, and ought to count among the greatest attractions, both archæological and architectonic, of the Exhibition of 1900.

K. Old Paris (*restoration by M. Robida*).—(1°) *General view along the Seine.* (2°) *Detail of western extremity.*

On a superficial area of about 6,000 square mètres, and with a frontage of more than 250 mètres along the river, there is a whole mediæval town, built on piles, and containing gates and Commune House, turrets, bretèches and famous houses, old markets and theatre, grand hall of the Palace and chapels, well and pillory, stalls, shops, and numerous taverns, all reproduced with the archæological science and the ever alert fancy of M. Robida.

L. Pavilion of the Egyptian Section. (*Designer, M. Philippe F. Boulad; architect, M. Marcel Dourgnon*).—(1°) *Plan of ground floor.* (2°) *Longitudinal section on the Ouakala.* (3°) *Front elevation on the Avenue d'Iéna.*

This pavilion, situated on the right of the Trocadéro Gardens, is composed of three distinct blocks. (1) A temple of ancient Egypt, containing a portico, monumental gateway, a naos with colonnade around, a staircase leading to the upper story, and, on the basement of the temple, mortuary chambers; the scheme of decoration of temple and chambers is borrowed from the finest buildings of the Pharaonic era. (2) An Ouakala, or Arabian bazaar, in the Arab style, with porticoes, shops, balconies, moucharabis, and on the first story a reproduction of the remarkable salon of the French Minister at Cairo. (3) A theatre on a rectangular plan, whose façade, like that of the temple, is of the ancient Egyptian style, but whose comfortable arrangement will allow the spectator to follow without fatigue the evolutions of the sacred dance of ancient Egypt.

M. Palace of the Algerian Section (*architect, M. Albert Ballu.**—(1°) *General plan and plan of lower portion. Longitudinal section. Longitudinal elevation and main elevation.* (2°) *Perspective view* (*towards the Pont d'Iéna.*)

This palace, built in the Trocadéro, consists of two portions, the official portion, under the general government of Algiers, and the portion given over to various attractions. In the official portion on the ground floor, a model in relief of the ruins of Timgad, executed under the direction of M. Ballu, with casts, designs, photographs, and scheme of restoration; at the back, the hall for Algerian wines; on the first floor, various exhibits. The palace reproduces the minaret of the mosque of the Sultan Bashaw at Oran; the cupola of the mosque of La Pêcherie at Algiers; the Moorish court of the old museum of Algiers, &c. The portion reserved for "Attractions" will consist mainly in a street of old Algiers, with covered passages, corbellings, and shops; in a moving stereorama by the painters Francovitch and Gadan; and in a diorama of views of the Sahara and Kabyle.

From the statistical information given at the beginning of these notes, we have seen that the Champ de Mars, as in the last Exhibitions of 1867, 1878 and 1889, will contain the greater portion of the products sent to the Exhibition of 1900 in vast structures, really palatial in their external decoration; also from the Eiffel Tower to the old Galerie des Machines, but with a central garden terminated by a Château d'Eau in its longitudinal axis, there have been erected enormous halls of metal construction, covering an immense space, whose fronts towards the quay and the garden of the Champ de Mars, as well as those on the Avenue La Bourdonnais and the Avenue Suffren, are ornamented with fore-parts, *loggias*, turrets and domes, producing a magnificent effect.

But, in front of these palaces, at the foot of the Eiffel Tower, to the right and left of the Pont d'Iéna, are situated two groups of galleries, less imposing perhaps, but well conceived, whose framework, most carefully constructed, is of timber (see Section: N, 3), and presents a character suitable to temporary structures. It is with these galleries, whose ingenious decoration is, really, deliberate affectation, that we will resume our catalogue.

N. Palaces of Navigation, Commerce, Woods and Forests, &c. (*architects, MM. Tronchet and Rey*) (*Phototype XV.*).—(1°) *Plan of Palace of Navigation and Commerce.* (2°) *Plan of Palace of Woods and Forests, &c.* (3°) *Section through longitudinal axis of the Great Hall of Palace of Woods and Forests.* (4°) *Side elevation* (*from the Pont d'Iéna*) *of the Palace of Navigation.* (7°) *Main elevation* (*towards the Seine*) *of the Palace of Woods and Forests.*

After these Galleries of Navigation, Woods and Forests, we skirt the right side of the Champ de Mars, where we meet the first of the palaces properly so called.

O. Palace of Education, Teaching, Instruments; and General Processes of Letters, Science and Arts (*architect, M. Sortais*) (*see Phototype XVI.*).—(1°) *Plan of ground floor, showing iron construction.* (2°) *Transverse section through Hall.* (3°) *Garden Front.* (4°) *Detail of a bay of Garden Front.* (5°) *Detail of broken Front.*

Note in this palace, which both on the ground floor and on the first story offers exhibitors a total superficial ground area of more than 27,000 square metres, the broken front formed of two small towers and a two-story vestibule with a great circular bay and balcony, the whole surmounted by a peculiarly shaped roof, a kind of *torus* crowned by a campanile rising to a height of about 50 metres: the open superimposed porticos forming *loggias* decorated with paintings on each of the side façades (towards the quay and towards the garden of the Champ de Mars), and moreover, the economical construction, in which use is made of cement with iron ties, and which does not come to more than 110 francs per square metre covered.

I must say, once for all that, in spite of a frequently extreme richness of decoration, the construction of the temporary palaces on both sides of the Seine, the Trocadéro, the Champ de Mars and the Esplanade des Invalides, has been exceedingly economical, and this economy would not be one of the features least worth studying in this great architectonic effort called forth by the Exhibition of 1900. We shall even see, later, that this economy imposed by the General Commissariat has reached even the remuneration of the architects.

But let us come back finally to our catalogue.

P. Palace of Civil Engineering and Means of Transport (*architect, M. Jacques Hermant**) (*see Phototype XVII.*).—(1°) *Transverse section.* (2°) *Main Elevation* (*Rotunda*). (3°) *Detail of central feature* (*scale,* 0·05′).

Broad internal arrangements and a very happy impression of careful design conveyed by the front on the Champ de Mars, which has a great monumental character, are to be noticed in this palace, of which the huge detail (7 m. 00) of the central feature has seemed to me to be interesting enough to be included in the collection; not that details of this size and to this scale are rare in the offices of the architects of the Exhibition, but because it has seemed to me useful to give an idea of the studies made in these offices even for ephemeral structures. In the façade of this palace a very beautiful frieze, set in a welcome architectural feature, is one of the fine examples that are offered in the permanent or temporary buildings of the Exhibition, of the ever fruitful union of sculpture and architecture.

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* M. Albert Ballu is the eldest son of Th. Ballu, late Hon. Corr. Member R.I.B.A.

* M. Jacques Hermant, the architect of the Nouvelle Caserne des Célestins at Paris and the architect of the French section at the Brussels Exhibition of 1897, is the son of M. Ach. Hermant, Hon. Cor. Member R.I.B.A.

> *R. Château d'Eau and Palace of Materials and General Processes of Mechanical and Chemical Industries, &c. (at the end of the Champ de Mars) (architect, M. Paulin). (Phototype XVIII.).*—(1°) *Plan of the ground floor of the Château d'Eau.* (2°) *Plan of first story of Château d'Eau.* (3°) *Plan of the upper and lower basins.* (4°) *Longitudinal section of the Château d'Eau and basins.* (5°) *Façade of the Château d'Eau and the side galleries of the Palace.*

In the still rudimentary condition of a part of these works under the direction of M. Paulin, I prefer to substitute for my own impressions, which are necessarily incomplete, a few notes which my honoured colleague has been kind enough to give me on the Château d'Eau, which, crowned by the crest of the Palace of Electricity, promises to be, in combination with the latter, one of the great attractions of the Exhibition.

"The Château d'Eau, at the end of the Champ de Mars and in front of the Palace of Electricity, is separated from the latter by a gallery which extends the breadth of the garden and turns round on either side, in front of the Palace of Mechanical Science (Avenue de la Bourdonnais) and the Palace of Chemical Industries (Avenue Suffren). Within the space bounded by these three sides are placed the basins of the Château d'Eau, around which are broad staircases of gentle slope, which will take the visitors to the level of the first story of the palace. The principal feature of the Château d'Eau is formed by a large niche, 24 metres in diameter) whence the water will issue from six niches and a grotto placed 29 metres above the ground level of the Champ de Mars. The water spurts out as from a spring, and then falls a height of 11 metres, to spread like a torrent sheet on sheet, into a lower basin which is at the same time the reservoir of the water that is needed to work the machinery of the palaces. The whole extent of the basins is 120 metres long by 67 metres in greatest breadth. A cartouche with the monogram of the Republic, accompanied by winged genii, surmounts the arch of the great niche; groups represent the nymphs of the springs, snow, ice, and symbolise the benefits of water. In the evening strings of electric lights will illuminate the main architectural lines and the cartouche, and the various water effects, cascades and jets, will be rendered luminous and coloured with every hue."

> *S. Palace of Electricity (architect, M. Eug. Hénard).*—*(For the crests, see Phototype XVIII.)*—(1°) *General plan.* (2°) *Plan of ground floor.* (3°) *Plan of first story.* (4°) *Section through transverse axis.* (5°) *Perspective of the great hall.* (6°) *Detail of the superstructure of crest.* (7°) *Central feature of decorative crest of front.* (8°) *Detail of a side bay.* (9°) *Various details showing the different systems of luminous effect employed to light up the crest.* (10°) *Main front above the Château d'Eau.*

In this palace, surrounded on all sides and partly masked by the Château d'Eau, the architect, who combines the science of an engineer with the talent of an artist, has concentrated his whole decorative effort in the upper part of the central hall. That is why he has given to this hall the form of a trilobate vault containing the great niche of the Château d'Eau. He has, moreover, surmounted it with a broad open-work crest with three great central features, so as to give during the day the impression of metal lacework standing out against the sky, and during the night the appearance of lace-work of flame. In the centre of this scheme of decoration stands the symbolic figure of Electricity drawn by two fantastic beasts and set against a metal sun of 13 metres in diameter. Besides, all this crest has been carefully studied so as to bring out the various effects of electric lighting, and to obtain for the Champ de Mars a new and striking decorative background. I may add that the great hall contains a first story, to which access is given by the stairways and porticoes of the Château d'Eau, and the numerous details put at our disposal by M. Eug. Hénard ought to enable us to form an idea of his work as a whole.

> *T. Salle des Fêtes (in the Gallery of Machinery) and Group of Agriculture and Food-stuffs (architect, M. Raulin).*—(1°) *General plan of ground floor.* (2°) *General plan of first story.* (3°) *Section through the Salle des Fêtes.* (4°) *Front of same.* (5°) *Detail of ceiling of same.*

The adaptation into a Salle des Fêtes of the central portion of the Machinery Gallery, that gigantic legacy of the Exhibition of 1889, will be one of the most original, and, let us hope, one of the most lasting creations of the Exhibition of 1900. In spite of the difficulties of every kind, the chief of which was the occupation almost to the very last moment of this gallery by the most varied organisations, the Concours Hippique and the Annual Salon, M. G. Raulin undertakes to endow Paris with a great and beautiful hall for the Award of Prizes, of which we have been up to now in some need.

> *U. Palace of Woven Fabrics (architect, M. V. Blavette) (see Phototype XIX.).*—(1°) *General plan.* (2°) *Front on Champ de Mars.*

This palace is a pendant to the Palace of Civil Engineering and Means of Transport. Both have broad common arrangements imposed upon them. But the Palace of Woven Fabrics, situated between the Avenue La Bourdonnais and the Champ de Mars, is traversed by a large vestibule (the Vestibule Rapp) and has two monumental façades, one on the Champ de Mars and the other on the Avenue La Bourdonnais. On the ground and first floors of this palace, with arrangements for service on the basement and second floor, will be numerous cafés and restaurants leading ou to a gallery eight metres wide, which opens upon the garden of the Champ de Mars. Great use has been made of steel in the actual construction, and this is seen in the façade on the Avenue La Bourdonnais, while the façade on the garden of the Champ de Mars is covered with decorative features.

> *V. Palace of Mines and Metallurgy (architect, M. Varcollier) (see Phototype XX.).*—(1°) *Plan of ground floor.* (2°) *Longitudinal section.* (3°) *Section through dome.* (4°) *Front on Champ de Mars.* (5°) *Front parallel to Seine.* (6°) *Front on Avenue La Bourdonnais.*

Notice particularly in this palace, which reveals great conscientiousness of study, the broad open galleries of the façade and the great monumental dome whose broadly treated interior framework and exterior decoration are shown in the drawings V. 3 and 4.

With M. Varcollier's Palace of Mines and Metallurgy we have finished our rapid but fairly complete visit to the structures in the Champ de Mars under the auspices of the General Commissariat and the Office of Architectural Works of the Exhibition of 1900; our harvest of designs is far less satisfactory as regards the structures on the Esplanade des Invalides, with which we will end these notes. However, on following the Seine from the Pont d'Iéna to the Pont Alexandre III through the Palace of Foreign Nations, I may be pardoned for having yielded to the appeal of friendly colleagues, the architects of the Palace of Belgium, and let myself be captivated by their studies of the Hôtel de Ville of Audenaerde, built by the architect Van Pede about 1530 and reproduced conscientiously by them, as well as those of old houses, for the purposes of the Belgian Palace, and for having added some of these studies to this catalogue.

W. Palace of Belgium (*architects, MM. Acker and Maukels*).—(1°) *General plan.* (2°) *Main elevation.* (3°) *Elevation of front on the Quai d'Orsay.* (4°) *Ditto on Seine.* (5°) *Rear elevation.* (6°) *Detail of main front.* (7°) *Old houses adjoining Belgian Palace, plans and details.* (8°) *Old houses, details.* (9°) *Perspective view of the Hôtel de Ville of Audenaerde.*

In the Esplanade des Invalides, the necessity of respecting the perspective of the dome, for which the Avenue du Palais and the Pont Alexandre III. have been planned, has forced the authorities to arrange the palaces on either side of the esplanade, leaving between them an avenue which is the continuation of the Avenue du Palais and the Pont Alexandre III. Two half palaces at each end and two palaces in the central portion, occupy the esplanade, and are the last structures which I shall mention.

X. Palace of National Manufactures and Porticoes in the Gare des Invalides (*architects, MM. Toudoire and Pradelle*) (*Phototype XXI.*).—(1°) *General plan of ground floor.* (2°) *General plan of first story.* (3°) *Elevation of galleries to the quay* (*towards the Rue Fabert*). (4°) *Elevation of palace to esplanade.* (5°) *Tops of the great pylons.* (6°) *Detail of the angle of the pediments.* (7°) *Caps of porticoes.*

With their broad porticoes, with richly decorated architectural features, these Palaces of National Manufactures, of the ornament of which I am glad to offer you some details, are well fitted to the purposes for which they are intended, which is to house the industries of luxury, and they do great honour to MM. Toudoire and Pradelle.

I should have liked to submit likewise for your appreciation the two palaces in the central portion of the esplanade, one of which, the Palace of Decoration and Furniture (architect, M. Esquié), is only represented in this catalogue by a longitudinal section, giving a very poor idea of its rich entrance feature (Y, 1), and by its esplanade front (phototype XXIII.); and the other, the Palace of Various Industries, is by MM. Larche and Nachon. Unfortunately urgent business affairs at the time of sending off this collection prevented me from obtaining from the offices of these architects the drawings which I had asked them for on your behalf. However, I must say here that the charm emanating from this last palace, whose ornament, borrowed from our French flora, and as it were softening down the lines of the architecture, for which sometimes it manages to substitute itself, promises to render the building one of the most admired works of the exhibition.

With M. Tropey-Bailly * we have been more fortunate, and to him we owe the last numbers of this catalogue.

Z. Palace at end of Esplanade, Ceramics, Crystals, and Glass-work (*architect, M. Tropey-Bailly*) (*see Phototype XXII.*). (1°) *General plan of ground floor.* (2°) *General plan of first story.* (3°) *Elevation on central street of the Esplanade.* (4°) *Elevation looking on the Invalides.*

In this palace, as indeed in all the others, we see, with a seeking after originality, the justification of the use of decorative sculpture, both as an ornamental feature and as a crowning feature, particularly in a great and exceedingly well-treated frieze on the Invalides front; yet the architectural lines, well thought out, present their full value in the midst of all this richness, and leave a real impression behind on the visitor who leaves this last palace somewhat fatigued, but struck with wonder at such refinement and luxury.

Here these notes will end, and if, in dealing with the palaces of the Champs Elysées—structures which will survive the Exhibition of 1900—we may have evoked the memory of the pomp of Louis XIV. and a monarchical France, reflections of quite a different character pass through our minds as regards the numerous palaces of ephemeral construction, which will disappear with the exhibition that saw their inauguration. Throughout all the conscientious work, in the heart of which is paramount the influence of the school in which, without exception, all the architects of the Exhibition and their collaborators have been trained, we are bound to observe, especially in the richness of the decoration and the exuberance of the sculpture, as it were a certain exoticism, as it were a reflection of certain architectural styles that have come ready moulded from the furthest East; these palaces give rise to thoughts of colonial France and its art, so different from ours.

One last word. I have spoken of the economic conditions in which, in spite of their ornamentation, the palaces on the Champ de Mars, the Esplanade des Invalides, and generally all the temporary buildings of the Exhibition have been erected, and I have given you to understand that this economy reached even to the remuneration of the architects. Permit me, gentlemen, without insisting on this point, to pay some homage to my French colleagues, by transcribing a few lines on the subject from an official report addressed to the President of the Republic.

"In conformity with precedent," writes the Minister of Commerce and Industry, "the remuneration allowed to the technical staff is fixed and comparatively small. The chiefs of offices, men in possession of tried skill, who nearly all have attained to reputation, would easily find higher remuneration in private work. The zeal with which they devote themselves to the service of the State is only the more meritorious." *

It only remains for me now, Mr. President, gentlemen, and honoured colleagues, to thank you for the attention which you have been kind enough to bestow on this long exposition of works in course of completion for the Exhibition of 1900; and thinking of the importance which the Royal Institute of British Architects has always attached to different methods of manifestation of architectural design, whether in treatises like the one published some years ago by my old companion at the Ecole des Beaux-Arts, Mr. R. Phenè Spiers, or in addresses to students, such as the one delivered a fortnight ago, by the honoured President of this Institute, I sincerely hope that this collection of designs may be of some use to our young English colleagues, students of this Institute.

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* M. Tropey-Bailly is the nephew of our late regretted colleague, Ant. Bailly, Hon. Corr. Mem. R.I.B.A.

* Report of M. Henry Boucher, Minister of Commerce and Industry, 10th June 1898, Paris. Impr. Nat. p. 7 (not published).

INCORP
1837
1887

9, Conduit Street, London, W., *24th Feb.* 1900.

CHRONICLE.

M. Charles Lucas' Paper.

The Paper on the Buildings of the Paris Exhibition read at the General Meeting last Monday attracted an audience so numerous as to tax to the utmost extent the resources of the Institute in the way of seating accommodation, or even of standing room. The author, M. Lucas, one of the best known and best esteemed of the Institute Corresponding Members, received a welcome the warmth of which bore eloquent testimony to the high regard in which he is held, and to the unanimous appreciation of his always willing service to the Institute and courteous aid to individual members. Among the numerous visitors present were Colonel Herbert Jekyll, Secretary of the British Royal Commission, and Mr. I. Spielmann, Secretary of the Fine Arts Committee. Space permitted of the hanging of scarcely half of the handsome collection of drawings and photographs of the various buildings presented through M. Lucas by the architects engaged on the Exhibition works. The whole, however, are permanently deposited in the Library, where members and others interested may inspect them at their leisure. M. Lucas delivered his Paper in French, and mainly without following the wording or the sequence of the text as printed on foregoing pages. Consequently copies of the translation prepared of the original and distributed among the audience were not of much assistance. The author's enunciation, however, was so beautifully clear and distinct that those able to read the language fairly well, though ordinarily finding it difficult to understand when spoken, were able to follow the lecture with pleasure and comprehension.

The Secretary, as Editor of the Journal, has received the following letter:—

12, *Norfolk Street, Strand, W.C.:*
20th February 1900.

Dear Mr. Editor,—Well-chosen words gave expression, last evening, to the indebtedness of English architects to M. Lucas for the many and valuable literary contributions he has from time to time been the medium of conveying to the R.I.B.A. as its Honorary Corresponding Member in Paris.

There are, in addition, many English students who, like myself, having profited by his valuable counsel when in Paris, owe a debt of gratitude to M. Lucas for his ready information, always most courteously afforded in response to enquiry.

I am sure I am but expressing the hopes of all such when I add a hearty wish that M. Lucas may long be spared to hold this honourable position in relation to the Royal Institute, and further that this year's "Universal Exhibition" may be successful beyond the aspiration of its most ardent promoters and architects.

I am, Sir, yours faithfully,
Francis Hooper.

Congress of Architects 1900.

The President announced at the Meeting last Monday that arrangements were in progress for holding in London this year a Congress of Architects, under the auspices of the Institute. It is proposed that the Congress shall take place in the third week in June, opening with a Reception in the Institute rooms on Monday the 18th, and closing on Saturday the 23rd June. The functions will include the reading of Papers on subjects of practical value connected with architecture, visits to places of interest in London and neighbourhood, a Conversazione, and the Annual Dinner. The date of the Presentation of the Royal Gold Medal, originally fixed for the 27th June, has been changed to the 18th June, so that the function may take place on the first day of the Congress. The Annual Dinner will be held on Friday the 22nd June. The President hoped that members would assist to the best of their ability in making these proposals known to their friends not only in London but in the outlying parts of the home district and in the provinces. It was desired to attract to the Congress architects from all parts of the United Kingdom, whether belonging to the Institute or not; and not only architects, but members of the public who were in sympathy with their art. The aim was to make it a public Congress, to bring the subject of Architecture more prominently before the people, and endeavour to awaken some popular interest in it.

Prizes and Studentships 1900–1901.

The pamphlet containing full particulars of the Prizes and Studentships for 1900–1901 will be issued to members with the next number of the Journal. The following is a brief summary:—

The Essay Medal and Twenty-Five Guineas, open to British subjects under the age of forty.—

Subject: The Comparative Desirability of the Formal or Irregular Treatment of Street Architecture in large Cities.

The Measured Drawings Medal and Ten Guineas, open to British subjects under the age of thirty.—Awarded for the best set of measured drawings of any important building—classical or mediæval—in the United Kingdom or abroad.

The Soane Medallion and One Hundred Pounds, open to British subjects under the age of thirty.—*Subject:* Design for a Club House in a large City.

The Pugin Studentship: Silver Medal and Forty Pounds, open to members of the architectural profession (of all countries) between the ages of eighteen and twenty-five.—Awarded for the best selection of drawings and testimonials.

The Godwin Bursary: Silver Medal and Forty Pounds, open to members of the architectural profession without limitation of age.—Awarded for the best selection of practical working drawings, or other evidence of special practical knowledge, and testimonials.

The Owen-Jones Studentship: Certificate and One Hundred Pounds, open to members of the architectural profession under the age of thirty-five.—Competitors must submit testimonials, with drawings exhibiting their acquaintance with colour decoration and with the leading subjects treated of in Owen-Jones's *Grammar of Ornament.*

The Tite Prize: Certificate and Thirty Pounds, open to members of the architectural profession under the age of thirty.—*Subject:* Design for an Entrance Gateway to a Public Park.

The Grissell Gold Medal and Ten Guineas, open to British subjects who have not been in practice more than ten years.—*Subject:* Design for a Timber Footbridge across a Stream.

The Ashpitel Prize: Books value Ten Guineas.—Awarded to the student who distinguishes himself most highly in the Institute Final Examinations 1900.

The Arthur Cates Prizes: Books value Ten Guineas.—Presented by Mr. Arthur Cates at each Final Examination to the Student (passing the examination) who submits the best set of Testimonies of Study together with certain additional drawings.

Copies of the pamphlet may be obtained at the Institute, price threepence each.

An Associate at the Front.

The Secretary is in receipt of a letter from Mr. Geo. A. H. Dickson [*A.*], who until the outbreak of the war held the post of Diocesan Surveyor of Pretoria. Mr. Dickson writes from Potgeiter's Drift Camp, under date 22nd January, that he is commanding a squadron of Bethune's Mounted Infantry, "part of the relieving column proceeding to Ladysmith *viâ* Colenso and Potgeiter's Drift under Buller." He hopes to be in Johannesburg and Pretoria as soon as the English troops enter. Mr. Dickson's military training began in the Artists' Volunteer Corps, and he afterwards held a commission in the militia.

REVIEWS.

CHURCH DEDICATIONS.

Studies in Church Dedications; or, England's Patron Saints. By Frances Arnold-Forster. 3 *vols.* 8o. *Lond.* 1899. [*Messrs. Skeffington & Son, Piccadilly.*]

Set forth with all simplicity and modesty as this work is, yet it needs but a brief examination of its three volumes to convince the reader of the patient and painstaking labour which has been devoted to its preparation. It is, indeed, difficult to estimate the amount of special reading, of reference, of correspondence to which its pages bear witness; but besides these efforts, necessary to the collection of a mass of information in tracks little frequented, there has been also the careful, well-directed labour by which a clear intelligence with a talent for organisation can place the reader in the position to get quickly at the particular item of information which he desires to pick from the mass.

When in the preface the author writes, "they do not profess to be more than studies," it is clear that she has become well aware of the extent and perplexities of her subject; and when she adds that "they are the outcome of conscientious and careful labour," no critic will be disposed to question the justice of the claim.

The dedication names found in England (only), which are here dealt with, are in all about six hundred, many being, of course, repeated in various parishes.

These names are carefully classified, to begin with, into divisions, under some fifty heads, such as "Scriptural Saints," "Holy Angels," "Soldier Saints," "Virgin Martyrs," "Founders of Religious Orders," "Archbishops," "Bishops," and so forth. There are special divisions, too, for such groups as "Irish and Welsh Saints in Cornwall," "Scandinavian Saints," "Saxon Ladies," "English Kings," "Double Dedications," &c., whilst at the end comes an interesting chapter on "Lost, Doubtful, Spurious and Untraceable Dedications."

Under each of the several heads are gathered into a chapter brief but pleasantly written notices of the lives of the included saints, and of the traditions gathered round them; and the value of these notices is enhanced by the copious footnote references to the sources from which these accounts are drawn.

Such is the material which occupies the two first volumes. But the contents of these two volumes, however useful in themselves thus classified, would but imperfectly serve the author's purpose were it not for the admirable cross-indexing of the third volume. This is devoted to three "Appendices," which are really three exhaustive indexes. The first is a "Statistical Summary," which, whilst showing how many churches are dedicated to any one name, shows also whether the dedication is pre-Reformation or modern, as well as the volume and page in which the descriptive notice is to be found. The second appendix is an appendix of parishes, with columns for the dedication, the county, and the diocese; whilst the third appendix forms another index in which the names of the saints are placed in alphabetical order, and each heads a list of the parishes in which a church is dedicated to that saint.

By this arrangement it is made absolutely simple to arrive at all the information which the book can convey on the subject of any particular dedication in any parish in England. And it may be said to go beyond this, because where more information is wanted than it would be within the compass of a work of such moderate size and cost to offer, the author puts the reader in touch with other sources of information.

I think that in thus explaining the construction and method of the work I have done enough to show every architect who has to do with churches, and especially country churches, that it is one which he may welcome to his shelves. This is a subject almost certain to crop up in his labours, and almost equally certain to cause him considerable trouble in inquiry and research; often when the time can be ill spared. With this book at hand there is hardly a question connected with English hagiology which he cannot in five minutes put himself in the way of solving.

J. D. Crace.

LEGAL.

London Building Act—Claim for Exemption.

THE CRYSTAL PALACE COMPANY *v.* THE LONDON COUNTY COUNCIL.

This was an appeal by case stated from justices of London, and heard in the Queen's Bench Division on the 7th February, before Mr. Justice Channell and Mr. Justice Bucknill. Informations were preferred on behalf of the Council against the Crystal Palace Company, the appellants, charging them with erecting at the grounds of the Crystal Palace certain buildings to which Part VII. of the London Building Act 1894 applied—to wit, a 22-stall stable, a loose-box, stabling, and harness-room, a forage store, and office, and a shoeing forge—without having obtained the approval of the Council, required by the Act and the Act of 1898 amending the same. The Crystal Palace was re-erected by the appellants upon land acquired by them under the powers conferred on them by Royal charter in the year 1853. In addition to re-erecting the building the appellants laid out portions of the lands as gardens and recreation grounds, and from time to time erected on the lands conservatories and buildings, in some instances physically connected with, and in others detached from, the main building. The stables and other buildings in respect of which the information was preferred were erected in May and June 1899, for use in connexion with land laid out by the appellants as a polo-ground. The buildings were situated about a quarter of a mile from the main building. By section 21 of the Crystal Palace Act 1881 it was provided that "the main building, conservatories, and waterworks of the company, and the conveniences and other works immediately connected therewith, shall be exempted from the operation of Part I. of the Metropolitan Building Act 1855, and of any other Act amending the same, but this exemption shall not extend to any dwelling-house or building except as aforesaid upon any part of the property of the company." The Metropolitan Building Act 1855 was repealed by the London Building Act 1894, but by section 218 it is provided that where in any Act or document the provisions of the Act of 1855 are referred to, such Act or document shall, with the necessary modification, be read as if the corresponding provisions of the Act of 1894 were therein mentioned, instead of the provisions of the repealed Act. The justices convicted the appellants.

Mr. Freeman, Q.C. (Mr. R. C. Glen with him), for the appellants, contended that the stables were exempted from the provisions of the London Building Act by virtue of section 21 of the Crystal Palace Act, because they were "immediately connected" with the objects for which the Crystal Palace was re-erected and the grounds laid out, which included the amusement and elevation of the people.

Mr. Avory, for the respondents, was not called upon to argue.

The Court dismissed the appeal.

Mr. Justice Channell said that "works immediately connected therewith" meant works connected with the main building—that is to say, the physical structure, not the objects of the appellant company. The polo pony stables being a quarter of a mile away from the main building were not connected with it in the sense intended in the Crystal Palace Act, and were, accordingly, not exempted from the provisions of the London Building Act.

Mr. Justice Bucknill concurred.

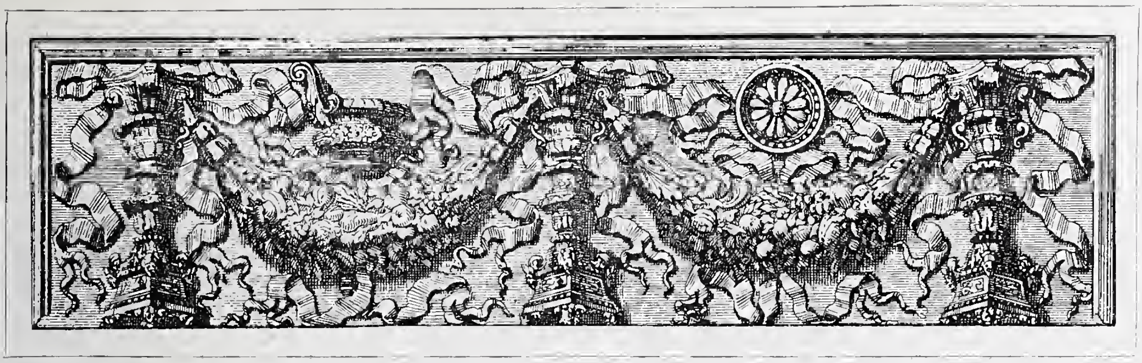
MINUTES. VIII.

At the Eighth General Meeting (Ordinary) of the Session, held Monday, 19th February 1900, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 39 Fellows (including 15 members of the Council), 61 Associates (including 1 member of the Council), 3 Hon. Associates, and numerous visitors, the Minutes of the Meeting held 5th February [*ante*, p. 148] were taken as read and signed as correct.

A Paper by M. Charles Lucas [*Hon. Corr. M.*] entitled "Notes sur les Palais de l'Exposition de Paris en 1900," having been read by the author, and explained by means of a large collection of illustrations presented through him to the Institute, a vote of thanks was passed to M. Lucas by acclamation.

The thanks of the Institute were also accorded by acclamation to M. J. Bouvard, Director of the Architectural Works of the Paris Exhibition, and to all the architects connected with the Exhibition who had joined in presenting to the Institute the collection of drawings illustrating M. Lucas' Paper.

The President having announced that a Congress of Architects would be held in London next June under the auspices of the Institute, the proceedings closed, and the Meeting terminated at 10 p.m.



RUSKIN AND EMOTIONAL ARCHITECTURE.

By Professor Kerr [*F.*].

It is one of the most brilliant and successful writers of the Victorian age who has now passed away in the person of the late Mr. Ruskin, and Literature and Art do well to clothe his memory with special honour. During the fifty years of his busy career, the versatility he displayed caused no little astonishment; but every topic he dealt with was so handled, with the same fascinating ease and persuasive vigour, that the volume of his doctrine seems like a single picture painted in a thousand harmonious colours. Strange to say, amongst the subjects he ventured to take in hand, one of the most conspicuous was the esoteric Art of Architecture, concerning which, in any form of practice, he knew (in plain language) nothing at all; but no one could help acknowledging that the views he brought forward were always original, courageous, and persuasive, adorned with every graciousness of speech, and every word designed to magnify an elevated purpose and make it honourable. It may well, therefore, be considered a professional duty with us as architects, no less than a valuable intellectual exercise, to ask ourselves the question, with some anxiety, what has been the nature of his influence upon the practice and progress of architecture, and what its extent; not an easy question to attempt to answer, and one full of matter for debate.

It need scarcely be said that Ruskin was "of imagination all compact"; fanciful from the earliest days—perhaps whimsical; and iridescent to the last, till, a few sad years ago, the too bright light went out. He was emphatically an oddly constituted man, one of those eccentrics who more commonly fall into the ruck in the race of life and make no running, but who occasionally, as in this case, dash to the front and keep the lead. He must not therefore be taken too seriously, or criticised at all carelessly. Sentimental emotion was the root and branch of his being; in dreamy quietude and gentleness when it might be so, in volcanic impulsiveness when otherwise; the restless soul never quite sober, often intoxicated with inspiration not to be expressed. When so severely substantial a theme as the solid walling of the builder was undertaken, one might think he had come upon an exception to his rule; it was nothing of the kind; our wonder was only increased when we saw it treated by the writer on pictures as an example of exceptional force. Those who remember the time will remember the astonishment created by his doctrines in the world of fifty years ago. To say that he was not understood then is not enough; is he understood now? At any rate, he was like no one else. Let us therefore look at such a man from his beginnings, and with the fulness of attention due to a genius so strange.

He was the solitary and very quaint child of a remarkable father. Ruskin senior, a Scotch puritan born, a self-made London merchant, a steady-going prosperous City man, living in the mild beatitude of Bloomsbury, was by way of recreation fond of reading poetry, being able also to read it poetically; equally fond of sketching a bit of landscape, and able to sketch it fairly well; lastly—and here we come closer to the point—enthusiastically fond of Turner's drawings, indeed a collector of them. Ruskin junior, let us say plainly—for it is a good deal to be able to say so soon—was "a chip of the old block," of whom it is by himself put on record that he came in due course to be—no rare phenomenon or contemptible—an extremely self-conceited youth, of transcendental proclivities, engaged betimes in "forming his style" on Sir Walter Scott, Homer, and the Bible, and capable of setting himself seriously to work, at seventeen, on the adventurous task of writing a tragedy. Is not all this exactly as it should be? But again, the father, in the way of business, had to journey about a good deal, throughout England and Scotland—in an old-fashioned way in a chaise—as his own "traveller"; and he would take his queer and inquisitive boy with him at times, to enjoy the natural scenery of the open country and look at things after the manner of Turner, who "hated humbug of all sorts." They even had a little continental travel together, and saw the ancient picturesque cities of Europe, the great mountain ranges of perpetual snow, the famous rivers and valleys, the radiant palaces and solemn cathedrals; all viewed sentimentally, and, of course, more so by the quaintly curious and astonished son than by the exulting and animating father. So in due time it was resolved by the admiring parents that, as they could well afford it, he should "go to Oxford," and in the best company that money could buy, so that he might rise in the world and probably become such a thing as a bishop. We can scarcely fancy Ruskin a bishop, or think of his reception by the orthodox clergy; but to Christ Church he went; dear mother, now getting elderly, taking lodgings in the town to look mildly after him, and father coming down by coach at the week-ends to keep them company joyfully. Surely this is a most pleasant picture, and profitable for all of us to look at, and the contemplation of it the right way to begin if we would judge humanly, and therefore naturally, of even a meteoric life. And there is one finishing touch of nature to be added; the parents, in their humdrum good sense, thought it good to be careful not to promenade too noticeably in the company of their prodigy, lest they should do him a little discredit in the eyes of his patrician fellows. Of these it is interesting to know that the still active Lord Wemyss was one, much esteemed as Frank Charteris.

In *Loudon's Magazine* of date 1837* there may be found one or two correspondence-articles signed "Kataphusin" and modestly entitled "Introduction to the Poetry of Architecture." The writer, aged eighteen, was Master John Ruskin, and "Kataphusin" was meant by him to be interpreted by the vernacular words "According to Nature." Observe the significance of this. The grand old Fine-art of Architecture, viewed from a poetic standpoint, was to be brought into notice on the basis of "Nature." It was by a precocious young man, but why not? "Behold how great a fire a little spark kindleth!" Although nothing seems to have come of the adventure—except, as it is thought, abrupt editorial closure—is not this already the very question that was afterwards to be pressed upon us with such fervid eloquence—that Nature, Poetry, Art—not excluding even serious Architecture—are sympathetically, emotionally, one and the same? The work of this young man's life was to be the answering of this question.

He was already a sufficiently muscular Christian in mind, but had a full share of ill health of body during his University career; and the consequence was a lengthened time of travel in France and Italy, where, particularly at Geneva and Venice, he devoted himself almost exclusively to the pursuit of his dreams of Nature and Art. At length he was able to take his degree at Oxford, in 1842. He rushed at one bound into literature. He had won the great academical prize for "English poetry" in 1839, but he resisted the temptation to rush into that; perhaps it was too troublesome a pursuit for his patience; in riper days he declared that he was not a poet. But let all this pass; assuredly he was not the opposite; not a word of his prose was prosaic. At any rate, he had discovered with the best of poets, that our poor world is very much out of joint, and needs mending with eloquent speech; and so he proceeded forthwith to be, what another distinguished admonisher of mankind, Carlyle, has proudly dubbed himself, a "Writer of Books." In fact the publication of the first volume of *Modern Painters* took place—and took the world by storm—in the year after the taking of his degree; actually in the twenty-fourth year of his age!

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* Not in our Library; it might be worth while to look it up.

In the present notice we must let alone the subject of pictorial art; but the fact cannot be overlooked that the grand purpose which had been burning in the breast of this extraordinary youth, and now found utterance, was the recognition in "Art," undefined, of the divine element "Nature," equally undefined. In aftertime the bold Adventurer could afford to speak of this first book of his as a mistake; but at the least it made a sufficient impression upon artists and art-critics, and, together with the succeeding volumes of the work, still retains its place on the bookshelves as a classic.

We may now come at once to the *Seven Lamps of Architecture*, published in 1849, when the author was still only thirty years of age. It was twelve years since our philosopher as a schoolboy had offered to expound to the world "the poetry of architecture," not getting leave from the editor; but now he was the "Oxford Graduate" of *Modern Painters*, a celebrity, able to command attention. Architecture had evidently taken a strong hold upon his imagination. We are told that in his continental travels the symbolical and solemnizing ceremonial of the ecclesiastical worship had greatly impressed him; and that, although still patriotically "protestant," he had come to discard the "evangelicism" of his pious mother's early training. We have to bear in mind, moreover, that at the University he had been in the midst of the "Oxford movement." But perhaps he had also had the advantage of passing a few years in an architect's office? Not at all. Or of drawing from the "examples" at the School of Design? Nothing of the kind. What then? He had simply been dreaming of Art and Nature undefined. Do not suppose that this use of the word "undefined" must cover implied rebuke or feeble sarcasm; observe that, by an emotional intelligence such as this, impracticable definition must be avoided. But now the impulse had taken possession of him to attempt to reduce the undefined to something like scholastic system, and no doubt it was well to accept architectural art for the experiment. His ideas of Art from first to last were always pictorial, and in his selection of structural design for this exposition it was in a sort of pictorial aspect that it attracted him. The "seven lamps" of architecture, therefore, were to be so many principles of Nature undefined which, as he had shown in relation to painting, should govern Art undefined in building; operating, of course, altogether above and beyond the careless and the commonplace, and only thus achieving Architecture. The neglect of those principles must of necessity make the work of men's hands "vile," "loathsome," "a pain to see," and so on; and, as such, a species of affront to the spirit of "the Creator's work;" whereas the devout recognition of them made the same work a delight—emotional obviously, not visual—and (so to say) an offering of homage to the God of Nature. This book, like its predecessor, was pronounced by the author in aftertime to be "the most useless book I ever wrote;" but we know better; repudiation of that kind was a way he had, a manner of piquant humour, a paradoxical pleasantness of affectation; and what we now have to do is to understand, if we can, what those seven principles may be which are here in question under the poetic name of Lamps of Art lighting up the otherwise dull and dead work of the builder. The author designates them thus:—the lamps of (1) Sacrifice, (2) Truth, (3) Power, (4) Beauty, (5) Life, (6) Memory, and (7) Obedience. At first sight this seems to indicate only something fantastically or even whimsically transcendental, scarcely worthy of serious examination; but, although no one could call it anything like a workable scheme of building-design, it is undoubtedly found to contain a certain system of criticism which is exceedingly suggestive to imaginative minds. In more intelligible language, what it was meant to convey was that an edifice worthy of being considered an example of "Art," because following the principles of "Nature," ought to display these characteristics:—(1) a devotional feeling of having offered one's best as if sacrificially (for effect, this ought to come last perhaps, not first), (2) thorough genuineness of device, (3) earnestness of purpose, (4) grace of ornamentation, (5) individual vitality, (6) reminiscence of past examples, and (7) loyalty to past authority; and, as the propounder of this system was in no way a working designer himself, but only an emotional enjoyer of design achieved by others, this critical enjoyment naturally came to resolve itself practically into little more than a romantic preference for mediævalism at large, such as at that time was being made almost a political question in English society.

He had now become—in a certain sense unconsciously—simply an adherent of one of the two architectural parties in "the Battle of the Styles," then raging between two "camps" standing in defiant array against each other, with what Sir Gilbert Scott so sorrowfully called "mutual scorn," and with the neutral ground of Eclecticism between. His personal sympathies being wholly romantic, and the Gothic party being avowedly the romantic party, the Classic party was therefore the prosaic. He was not, however, in any sense a leader in the Gothic movement. Nor indeed was he a follower. He was emphatically a free lance; and not only was his Gothicism quite different from that of the Gothicists, but it went farther than theirs. His admonition was directed impartially against both orders of architects, as being both unworthy of the title; the only difference being that, if the one order might possibly be brought to accept the benefit of his teachings, the inability of the other was hopeless; the Renaissance, he said, being always "abominable." To account for this attitude it must again be borne in mind that at Oxford, being a born sentimentalist, he had been in the midst of the influences of the great sentimental "Movement" of the day; consequently had become a ritualist in personal feeling; consequently again was a Pre-Raffaelite with relation to painting; and thus, again consequently, a Gothicist with relation to architecture. Still more, he had sauntered and languished as an invalid for many months in continental cathedrals, till he had acquired an overwhelming sense of their symbolical solemnity. We know also of his infatuation for Nature undefined, and his training in Turner. Lastly, there comes his consciousness of the triumph of his highly sentimental *Modern Painters*. In all these circumstances, therefore, when restless enthusiasm demanded further exercise, it is easily to be understood how Architecture would be the subject accepted, in order that Art undefined and Nature undefined might on such ground possibly explain each other. The fantastic illumination, also, of the inquiry must be by lamps of dreamlike light such as the seven to which he eventually gave a name; and the quaint antiquities of the mediæval cloister would become far fitter examples of the intangible merits of his vision than the work of the studios of modern Paris and London. As for the writing of the book, the style of treatment and the style of language came of themselves. Instead of the prosy statistical statements of archæologians like Mr. Parker and Professor Willis, and the frantic denunciations of a Pugin, our architectural community had now the pleasure of seeing the loftiest aspiration expressed by a Ruskin in most exquisite phrase and with oracular authority; and whether the seven lamps threw any sort of light upon architecture, or none at all, was a question of opinion scarcely worth asking. A second treatise, however, and on different lines, equally unexpected, soon after appeared.

This was the celebrated *Stones of Venice*, which came out only about two years after the *Seven Lamps*. The author, albeit still young, having satisfied himself that he was accepted as a monitor on the most delicate questions of artistic sentiment, found that he had more to say on the subject, and indeed on more sensational ground. He had now resolved to carry his building metaphysics into the inviting region of historical romance, within the circuit of the most romantic city in the world, the strange City of the Sea in which modern civilisation had arisen out of the dark, to gain a meteoric culmination, and to suffer a sad decline—dawn, day, and sunset, all its own. He had spent much time in Venice studiously, and had discovered in his imaginative way that there lay hid in its churches and palaces the complete and instructive story of a world by itself, with much of good in it, and more of evil; in other words, that the history of Venice, from the ninth or tenth century to the fifteenth, would form a striking picture of human nature in all its virtue and vice, with visible illustrations in the actual form of extant buildings, well worthy of every one's contemplation for, literally, the soul's good. But he set forth his intention in finer words than these; if he should succeed, he said, as he hoped to do, he would "make of the stones of Venice touchstones, detecting by the mouldering of her marble poison more subtle than ever was betrayed by her crystal." The poison, in a word, was the design of bad architecture, as the "God-forgetting" operation of detestable social wickedness, and an indignity to the supreme essence of Nature. In the *Stones of Venice*, therefore, we have a book, not written for the edification of architects; or even amateurs or critics; but for the amusement of readers of history, and other intellectual mankind and womankind, accessible to romance, and taking a pleasure in reading at their delightful ease charming admonition conveyed in charming English. As architects of the businesslike order would put the case, the history of the Gothic method of Art was somehow best to be followed from its rise to its fall in the historical buildings of Venice, including at the close the modern Neo-Classic; and the author's particular view of the matter was this:—that, when the chaos of the dismal Dark Ages was at length disturbed, the light of Architecture touched Venice first in all the world, like daybreak from the sea; and brightened under God's patronage through the Ages of Faith; but at last, in the deplorable fifteenth century, when men "forgot to see God's hand in everything" (and actually resuscitated the "Arts and Letters" of paganism), plunged by swift sunset into the utter despair of night, in the unhappy misadventure called "the Renaissance," never to be regarded by pious critics but with abhorrence. That such a narrative as this was made highly dramatic need not be said; and of course the substance—for solid substance there was in it after all—was frequently or generally lost in the shadow; but it is enough for us to remember that the story made, and still makes, delightful reading.

In further years Ruskin's philosophy took quite another direction, or several others, with which we are not here concerned; and the question may now be faced—What influence have his writings had, in relation to our own subject of Architecture, upon the practice and progress of the art? Of course he made no pretence of understanding the technical work of architectural design, and it was not with this, directly or indirectly, that he was ever dealing. The essentially fundamental basis of common construction, also, was even more completely unknown to him. His scheme of the "lamps" of illumination shows clearly that it was the romance of superficial or pictorial expression alone that he could recognise. Hence it was that the first of them in order is visible, and entirely as "a mist of fine words," through the religious sense alone. It is a fine sentiment, no doubt, that the thought of "sacrifice," like a morning prayer, should seem to sanctify one's "best"; but this is nothing architectural.

Yes, he would say, yes; because it is Natural, and because the two qualities must be in essence ever the same, or your architecture is not Art, and becomes an abortion, a mere heap of "brick and mortar" which I consign to the dogs; for is not Nature the handiwork of God, and have we absolutely anything else to go by? No; Art is the child of Nature, which is the child of God. This is not his very language, but it is his very doctrine over and over again similarly expressed; the building of the impressive sublime, or of the delightsome beautiful, is with him a solemn service of a quasi-religious character; actually as if a sacrificial service; or it is not a work of Art, but an affront to Nature. Well, so let it be; such is emotional criticism; and emotional effort is meant to follow, and has followed—Emotional Art—Emotional Architecture—not for the builder, but for the emotional admirer. And we need not raise any objection; far from it; it pleases those whom it pleases. On looking closely at the other "lamps" it will be seen that they are of the same sympathetic type; the romantic illumination of a super-sensitive mind; all alike, not delusions, but amiable abstractions; you attempt to realise them and the light is gone if the lamp remains. Criticism on such bases is but the glow of enthusiasm; the calm analytical faculty only begins to act when this has cooled. Ruskin was a high priest of Nature; and that is enough. But what, then, is Nature in Architecture?

It is undeniably true that all that we call beauty and grace in the visible world must be the result of natural cause; let us say at once of material development: this is how it pleases the Divine to show "the garment thou knowest Him by." Therefore, as an example quite to the point, Nature—meaning the operation of natural law—is always genuine, "honest as the day"; and if a building could be so ordered as to grow out of the ground—from Nature's soil in Nature's air—like a tree in the forest or the well-known "primrose by the river's brim," it would of course follow, like them, Nature's laws; a great many of which, by the way, are mathematical, and all scientific; and not even Ruskin would dare to find fault with its organisation. Suppose, then, we look at the melancholy Forth Bridge, and ask the gentlemen of the Royal Academy, established by the State in great honour at Burlington House, what they think of it as a work of Art on the basis of Nature? They proceed to cast us out into Piccadilly.—But the gentlemen of the Royal Society, also established by the State in great honour at Burlington House, interpose on the way. It turns out that these two supreme authorities both understand all about "Nature." But, whereas on the one side of Burlington House our Forth Bridge is regarded with learned admiration as a beautiful—yes, they plainly say beautiful—example of "Nature unadorned, adorned the most" (scientifically), on the other side opinion is speechless with disgust (artistically). Now it is a curious fact that Architecture has always been held to belong to both those sides of Burlington House; so that an ideal architect, who cared about initials, might perfectly well be R.A. and F.R.S. together, and represent both interpretations of the term "Nature," which in fact has so many meanings that it may be said to have none. Seriously, then, with reference to Architecture in particular, is it not at the best an exceedingly inconvenient and illusory term? And may we not ask ourselves whether this is why it is so conveniently indefinite and illusive for any emotional purpose? The word is not really in the architectural vocabulary. Architecture is a thing so wholly artificial that it can be properly understood by none but the trained practical expert;—a dogma that ought never to be compromised under any circumstances. The principles of "Nature," in every applicable vague meaning of the word, are the principles of the artificiality of this Art, and it is only as such that they become architectural. Artistic building is architecture. Architectural art is the dress of scientific structure, grace for the multitude, finesse for the refined. Let those who wish to do so add sentiment for the sentimental, sympathy for the sympathetic, emotion for the emotional, and so let it be.

But are we to ignore the influence upon architecture of the sentimental diction, and the sentimental virtue which it expresses, of Ruskin's romantic writings? By no means. He has proved to be an ally of the greatest value, as an apostle of Art, however undefined. He had the characteristic of a popular preacher of the highest order; a favourite expression of his admirers is that he "touches the heart." Thus, even with relation to such a subject as architecture he gave a tone to public opinion. "Open your eyes," he cries, "and lift up your hearts!" And again, as if to throw over all inconveniences of argument, "Logic and rhetoric are only for fools and hypocrites"—not, that is, for you and me! As the highest principles of Art he names "Religion, National dignity, Noble sentiment, Enthusiasm!" He will not have dead art, but living—"the spirit of the Creator's work." All this in "bricks and mortar"? Yes, even in "bricks and mortar"! We have in these days and in this country quite enough of sober humdrum good sense all about us, and anything that now and then lets the steam of wisdom off pleasantly and harmlessly, if with a little exaggeration, is always to be welcomed.

This was the palpable secret of Ruskin's success. He must not be taken too seriously. He was wise and unwise together. His doctrines were no tame conclusions of ratiocination; they were pot-shots of spasmodic opinion and haphazard speculation, delivered at random as fancy happened to suggest, and contradicted when so it must be with a light heart. Perhaps it may be said that his life was a light comedy in which he played all the parts, grave and gay. In his study by the Lakes he was on the stage in London, and in the silence of the vale he heard the applause of a sensitive world, touched "to the heart." A man to be envied, not merely for his success, but for the unique worship that it brought. There is a whole world of good people in England who delight in the reading of his romances at this day, and whose children will succeed to their delight.

The influence exercised upon architects themselves by Ruskin's writings—the *Seven Lamps* and the *Stones of Venice*—at the time of their publication, was in one particular way very considerable. "The Battle of the Styles" was in full blast; on the one side the Neo-Classicists represented the usual practice of the Italian Revival, as that which belonged by natural law and by proper custom to the whole of modern Europe; on the other the Neo-Gothicists represented that progressive resurrection of the English Church which included a Revival of mediæval church-architecture. There was a certain sentimental element in Neo-Classicism in the form of an antiquarian "faith" in the (so to speak) supernal virtue of the Greek and Roman remains. There was an equally strong or even stronger archæological "faith" on the part of the Neo-Gothicists, resting on a patriotic acceptance of the "Old English" model of design. "Precedent" was the ruling divinity of both; on the one hand that of "the Five Orders," on the other that of "the Four Periods." The romantic mind of Ruskin having embraced the Gothic standard, thereafter his co-operation took a form of its own, and developed a romantic character of its own. In their daily practice of design the two antagonistic schools of architects produced work which was critically very bad art, and he allowed himself to condemn both to his heart's content; but he did not stop there. Pugin was enthusiastic and Parker was learned; Ruskin became intense. In the circumstances emotional intensity would acquire full force, and the brilliant expositions of its mysteries by an already famous writer on Art, not only arrested the attention of the best literary men, but commanded the special recognition of all intellectual experts. What the general public failed to understand they would consent to pass by; but what the experts might feel compelled even to smile at they agreed to admire as acceptable romance; and thus the suggestions of the Emotional acquired an actual authority which was beneficial.

Ever since those days, young architects have been reading Ruskin; some thoughtfully and some not. The practice of design and the principles of criticism have changed, but the phenomena of the Emotional, first appearing in his books, appear still in the aspirations of the romantic mind. At the present moment, many will say, the fashion of artistic architectural work is not of an elevated character ; there was formerly, in the best work, a certain serene refinement, alike in the "Orders" and in the "Periods," a lofty, vigorous, vivid aim, an intellectual restraint and repose, which compels comparison with a now prevalent sensationalism and a crudeness not to be denied. Ruskin would have had a word to say on this. But we have not here to discuss to-day's drawbacks of our own, our task has been to contemplate over the grave the life's work of a striking personality, to confirm the generous appreciation of eminence, and to honour the remembrance of good service, conscientiously, courageously, and brilliantly rendered to our Art.

A final word :—we have here a strange, wayward, miscellaneous Impressionist ; whatever he touched with his pen became instinct with life, and song, and glow—spiritualised, etherealised, electrical.

CONCRETE FLOORS.

By Frank Caws [*F.*], Vice-President Northern Architectural Association.

[*Read before the Northern Architectural Association at Newcastle*, 14 *Feb.* 1900.]

WHEN I engaged, by wish of the Council, to give this lecture, I little thought that we, as an Association, were going to be burnt out, and that this lecture would be the first one delivered in premises temporarily obtained in consequence of fire. I am sure we are all very glad that our valuable Library escaped the fire, and I hope the issue will be that we may find permanent quarters better than those from which we have been burnt out. It was my intention to have commenced my remarks by insisting upon the importance of an architect using his influence with his clients, upon all occasions as far as possible, in favour of fire-proof construction; and the practical illustration which we as a Society have now before us, will serve to emphasise my contention, which is that in these days to build non-fireproof dwellings should rank as a misdemeanour, not to say a crime. Time was when all London houses were built of wood. Then came the Great Fire, after which brick walls were insisted upon. This was one important step in the right direction; but up to the present, in the case of dwellings, this step has not been very much advanced upon. It is true that in buildings of a costly character, such as banks, picture-galleries, theatres, museums, and so on, very considerable advance has been made in the direction of fire-proof construction, but not in respect of buildings in which the risk of fire concerns human life rather than valuable property. It would seem from this that Englishmen place a higher value upon property than upon life. I do not myself believe for one moment that such is the case, for we are not living to-day under laws which permitted the hanging of a man for stealing a sheep.

The question of fire-proof dwellings is one of ways and means. It must be obvious that, if by making buildings fire-proof we make them so much more expensive that people in general cannot afford such costly houses, it is better to have a non-fireproof dwelling than no dwelling at all.

But I am convinced that, thanks to that modern introduction—Portland cement, it is quite easy to construct fire-proof dwellings at such slight additional cost to that of non-fireproof dwellings, that there is no proper excuse now remaining for those who continue to favour the latter.

The question of the best method of fire-proof construction is a very debatable one, and relates more particularly to floors and roofs. There are so many patents in connexion with fire-proof building construction, that for me to attempt in one brief lecture to deal with them would be vain. It is natural for everyone financially interested in some particular method to advocate it and press its claims, and I think it may safely be left to such gentlemen each to push his own speciality. But I have no interest whatever of that kind, and I shall content myself with telling you, my fellow architects, in as brief and simple a way as I can, what my experience has led me to adopt in my own practice, and you will judge whether the method I employ is good enough and cheap enough to meet the requirements of such cases as you yourselves may be called upon to deal with.

It was about twenty-two years ago, when I was enjoying my summer holiday in the Isle of Wight, that I was recalled by wire to Sunderland, by my friends Messrs. Pearman and Corder, wholesale grocers and provision merchants, to assist them in settling with the insurance company for the total loss by fire of their large warehouses in the middle of Sunderland. It was a very awful fire, and one which might have had terrible consequences upon the surrounding buildings in that crowded locality, and my clients were impressed with the necessity of making their new buildings fire-proof if possible. I had had no previous experience of fire-proof construction, and upon approaching the problem I found a serious difficulty, which was, that it would not be possible, with the financial means at our disposal, to erect new buildings by any of the expensive methods of fire-proof construction which were then in vogue. The necessities of the case induced me to give an amount of earnest thought to the question of the strength of concrete slabs. It was an extremely difficult subject to grapple with, because, though I searched in many directions, I found no authoritative data to guide me. The most valuable book which I at that time studied was Grant's book on "Cements." But this book gave me no indication as to what size of slab I could safely adopt, and I therefore had to think the matter out for myself.

Now, it was plain to me from the very beginning that, apart from the question of cost, the introduction into concrete floors of large masses of iron girders—there were no steel girders in those days, but the same remark applies to steel—is in itself calculated to impair the fireproofness, because iron is a material which expands under heat to such a degree as to tend, during a fire, to destroy the floors which it would be intended to strengthen. I therefore determined on this account, but also with a view to economy, to do with as little iron as possible. At this time I began to think about the differences of strength between a slab resting upon its two ends like a beam, or on its four edges, and I was able at once to discover in this difference a principle which, if rightly applied, might prove of inestimable value in solving the practical problem with which I was confronted. I took from my mantleshelf a little framed carte-de-visite, and, removing the glass and the card, I placed the frame flat upon the table and laid the card crosswise over it, resting on its two ends like a beam. Upon the middle of the card I piled a few coins as a load, and increased the pile until the card bent down and touched the table. I then tested the strength of this same card as a slab, by simply placing it back upon the ledge of its frame, so that all its four edges were supported. Again I loaded the middle of the card with coins, the same number as before, without making any visible deflection; and I found that I had to increase the load very greatly to induce the card to bend so far as to touch the table; and indeed, in doing so, it became necessary to seriously buckle and injure the card in a way that the mere bending of the first experiment did not. I then began to think of trying similar experiments with glass, because it struck me that glass, being of a hard, brittle nature, was more akin in this respect to concrete; but, upon reflection, it occurred to me that I need not make any actual experiments with glass, for every window-pane subject to a strong wind pressure was mechanically in the condition of a floor-slab resting on its four edges. Then I remembered also the glass counters of tobacconists' shops, how very strong they seemed to be; and last, but not least, I thought of the huge plates of plate-glass in our modern shop windows, and of the great amount of wind-pressure which they proved capable of resisting.

Of course, I saw that glass as a material is much stronger than the best cement-concrete, and on looking into tables of the strength of materials, it seemed that glass might be taken as about five times stronger than concrete. Taking a plate of shop-window glass 10 feet square, under a wind pressure of 20 lbs. per square foot, we have a slab of 100 square feet carrying a distributed load of 2,000 lbs. A slab of concrete 10 feet square would, of course, be much thicker than the glass. Say the glass is $\frac{1}{4}$ inch thick, and a slab of concrete is 4 inches thick, we know that the strength will vary as the square of the thickness. Now 4 inches is sixteen times thicker than $\frac{1}{4}$ inch, and 16 squared is 256, so that if the concrete were as strong as glass, it would carry 256 times 2,000 lbs. load. But on account of the concrete being only one-fifth of the strength of the glass, you must divide 256 by 5. Thus we reach the conclusion that a concrete slab 4 inches thick will carry 51 times the load, say 50 times in round numbers, of a glass plate of the same size but only $\frac{1}{4}$ inch thick. According to this computation, our concrete slab 10 feet square and 4 inches thick will carry 100,000 lbs., that is 1,000 lbs. per square foot of surface equally distributed, or say about 9 cwt. per square foot, including its own weight. Upon this mode of reasoning I proceeded to make sundry experiments, and also collected from many sources such data in regard to the proved strength of concrete bridges and floors as tended to confirm the principle of comparison, and eventually I proceeded with the floors of Messrs. Pearman & Corder's new warehouse, and constructed about 1,800 tons of concrete flooring in large slabs about 13 inches thick, many of which were about 21 feet long by about 12½ feet wide, without any iron in them. When the work was far advanced, and before the centerings were removed, Mr. Pearman remarked to me that many practical people thought that both he and I were mad, and it was generally expected that when the centering was taken away the slabs would fall by their own weight. These evil predictions, however, were falsified, and during the last twenty years these floors have been in constant use, subjected not only to heavy loads, sometimes amounting to 5 cwt. upon the square foot, but also to the impact of falling weights, and to the rough-and-tumble work of a heavy goods warehouse, as well as to the vibration—which is very trifling—of a powerful Otto gas-engine on the upper floor, four stories above the ground. Several fires have occurred in this building since it was completed, and in each case the damage done was very insignificant; although, had the building been of the ordinary non-fireproof character, it would have been probably wholly or partially destroyed.

I need hardly tell you that I was gravely impressed during the carrying out of this work with the heavy responsibility involved in the adoption of concrete slabs of such large sizes without iron, and I should not have felt justified in assuming that responsibility had not the financial necessities of the problem demanded it. These floors were constructed at a cost far below what would have been the cost had I followed the method of construction at that time most approved of; and I believe these floors are more fire-proof than they would have been had I introduced a considerable quantity of iron.

In committing myself to this grave undertaking, I attached due importance to the time element.

In these days of hurry, both clients and contractors are always too ready to remove the centering before the concrete has properly set, but I was exceedingly careful to prevent any centering being struck within five weeks of the slab being cast, and in most cases the time allowed was considerably more than five weeks.

In this building the walls were carried up to their full height before any floors were cast. The top floor, which was the roof-flat, was cast first, and when it was set the same centering was used for the lower floors, one after the other, which, while economising the cost of centering, of course added to the slowness of the progress. This is a method which I would never adopt of choice, as I consider it subjects the work to serious disadvantages. I greatly prefer to cast the floors upon the walls as the building rises, and to use a separate centering for every floor, and in many of my subsequent works I have adopted this method, but one cannot always do as one likes in such matters. At Pearman & Corder's buildings we obtained the necessary rests for the slabs upon the walls by building courses of brick in sand at the floor edges, which courses could be easily removed in short sections as fast as the concrete was ready to take their places. That is a method which is perfectly safe, like underpinning, if carefully executed, and though I have never experienced any ill effects from it, there is always the "if," which should, if possible, be avoided.

Perhaps, before proceeding further, I ought to describe the nature of the concrete used on this occasion. It consisted of one part of Portland cement, manufactured by Messrs. Grimshaw of Hylton, and four parts of good hard broken brick, turned over twice dry and twice wet, using the water as sparingly as possible. I am an advocate of broken brick as the best aggregate for concrete for such floors, because, having passed through fire, brick is already fire-proof, differing in that respect from broken stone or gravel. I have also found that broken brick is a substance of approximately equal strength to Portland cement, which is proved by the fact that when such concrete is broken up, the fracture extends alike through both the brick and cement, but when hard flint gravel is used instead of brick, the fractures leave the individual pieces of gravel intact, while the broken concrete has the appearance of cement gums, so to speak, from which the gravel teeth have been withdrawn. This is particularly true when the gravel used is of a smooth and rounded kind; moreover, the hard smooth gravel surface has no suction for the cement like the porous surface of broken brick. I am aware that various kinds of breeze are often used as aggregate in concrete floors, it being argued that this material makes the concrete much lighter; but I should hesitate to construct large slabs with breeze aggregate, as I do not think it would be equal in strength to concrete with broken brick aggregate, and as to the weight of the latter I consider it no drawback to a properly constructed building with good and sufficient foundations. Breeze aggregate may, however, be usefully employed for any parts of the floor or ceiling into which it is desired to drive nails. But my practice has been to embed breeze bricks in the concrete for such a purpose in the proper position where required for nailing.

I have particularly mentioned Pearman & Corder's building, not because it is the best or boldest example of slab floors which have been constructed under my care, but because it was the first.

Subsequently I have been engaged on many concrete floors, in all of which I have adopted the slab principle successfully, varying the mode of construction in sundry details which the special requirements of each case and further experience suggested. I have always been particular to obtain rigid, strong centering, and I cannot too emphatically caution my fellow architects as to the importance of this item. Any attempt to save money by scamping the centering is likely to lead to trouble and prove very false economy.

The greatest difficulty in dealing with cement-concrete floors is due to the natural expansion which the material undergoes in process of setting. This expansion is much greater when the cement is new and hot than when it is old and cool. It is not, however, the expansion itself which causes the trouble, so much as the smaller degree of contraction which follows expansion in the process of setting. This contraction causes cracks, which frequently occur over the supporting girders where the concrete is generally thinnest. These cracks have really no appreciable effect upon the strength of the concrete, but all the same they are apt to cause uneasiness and want of confidence in the minds of those who do not understand what they are occasioned by. By using carefully selected cool cement, and by taking certain precautions as regards the size of the slab and its mode of casting, the shrinkage can be so minimised as to almost entirely avoid such cracks.

I would like to point out at this stage, that I consider sand a most improper material to mix with cement in concrete floors; in fact, I regard it as poison to the cement, and have never allowed its use since the discovery I made at the early stage of my experience as to its bad effects.

The fact is, if a very fine sand be used, instead of helping the cohesion of the concrete, it tends to disintegrate it, so that, when sand is employed to give the necessary smoothness to the finishing of the upper surface of the cement-concrete floor, the surface, when subjected to the traffic, is likely to scrape off, and give off sandy dust, and eventually present a very shabby appearance; therefore, I have found it best to employ, in finishing the surface, fine crushed granite instead of sand.

Of course the surface of the slab should always be put upon it while the body of the casting is still comparatively wet, but it is hardly practicable to put the surface on in one and the same heat with the casting of the slab. In fact, it generally has to be done as a separate operation, and though it is desirable to have it done on the very next day after the slab has been cast, it is not always possible even to secure that arrangement; and it ought not to be overlooked that, whether the surface be put on immediately after the casting or some time later, the surface—which should generally be about an inch thick—can never be made absolutely homogeneous with the under bed. For once the latter is allowed only a few hours to set, the film of air resting upon it is never entirely expelled by any layer afterwards superimposed, and this air-film constitutes a real division between the under bed and the surface. Therefore, in reckoning the strength of concrete slabs the architect should not rely upon the entire thickness, but only upon the thickness of the under bed; so that, for example, in a slab whose total thickness is seven inches, including a one-inch top coat, the architect should consider the effective thickness, as regards strength, as six inches only.

One of the most remarkable features about cement-concrete floors is the great density of the concrete at its under surface, due to the fact that the liquid cement naturally gravitates to the lowest level, leaving the grosser aggregate above it, so that the wood-centering when removed leaves upon the ceiling an exact impression of every plank, such that the grain of the wood is distinctly traceable upon the under surface of the concrete slab, the extreme hardness of which makes it difficult for an ordinary plaster ceiling to be rendered beneath it without running the risk of the plaster falling down, as the hard cement surface has little or no suction to afford the plaster a key, or hold.

There are various methods of overcoming this difficulty, all of them more or less costly. In one of my most expensive buildings I determined to do without the plaster ceiling, and to obtain a perfectly smooth surface to the under-side of the concrete floors by which the plaster would be rendered unnecessary. Accordingly I set the plasterer to work to cover all the wood centerings with a skin of plaster, floating it very true and smooth, and so instead of casting the concrete upon bare boards in this instance, I had it cast upon a prepared plaster matrix. When the centering was taken down the plaster came away with it and left the cement surface as perfectly level and smooth as could be desired; but, alas! the colour of the material being dull, mottled, and unpleasant, and having none of the light-giving quality of the white plaster ceiling, we had no alternative but to paint or paper these cement ceilings.

Another method which I have tried more recently and very successfully in plastering under concrete slabs, is to render them, after the centering is taken down, with a coat of Portland cement and sand, which I find adheres well, and upon this coat I finish with a skimming coat of fine plaster.

In making fire-proof floors for cottages I consider if proper care were taken in the centering, and the joints therein covered with narrow strips of lining paper (to prevent the cement grout from descending into the chinks), it would be better to do without plaster ceilings altogether, and be content with the natural impression of the wood upon the cement, whitewashed. By such means, and also by avoiding needlessly thick slabs, the expense of cement-concrete floors can be brought within such limits as to render the fire-proof dwelling of a working man cheap enough to be a good commercial investment.

During all the years in which I have been interested in fire-proof construction I have grown increasingly impressed with the fact that the greatest field open for the ingenuity and skill of the architect and builder, is to be found in the direction of providing fire-proof dwellings for the people at small cost, in lieu of those match-boxes which are now multiplied by the thousand in our large cities in apparent defiance of all desire of improvement, and in utter disregard of danger to human life.

Although a fire-proof dwelling must cost more than a non-fireproof one, it will pay best in the end, because it does not decay or fall into disrepair, but, where ordinary care is used, is practically everlasting. Moreover, it is vermin proof, and cleaner and more sanitary than buildings containing many hidden chambers and cells of decaying timber, and ever gathering dust.

The limitations as to the size of cement-concrete floor-slabs, are largely determined by the quantity which a gang of men can cast in one day. If the slabs are made unduly large, it is highly probable that some of them may be left by the workmen half finished overnight, the other half being added next day, consequently leaving a joint right across the slab, which, though by no means fatal to its strength, is extremely undesirable.

In designing a large expanse of flooring it is necessary, therefore, to subdivide the area into squares of reasonable extent, and I may say that, in my own practice, I consider a square of about 150 superficial feet a reasonable size to arrange for, although in some cases I have found it necessary to make them much larger.

The steel girders which form the divisions between the slabs should be made strong enough to carry the weight of the slabs themselves and of their greatest proposed loads; but it must not be supposed that, when the slabs are set hard, these steel girders will necessarily be called upon to wholly sustain these weights.

I say necessarily, for much depends upon the manner in which the girders are placed. For example, if the girders are placed entirely or mainly beneath the concrete so that the full thickness of the slab, or a considerable thickness of it, passes above the top of the girder, as shown by fig. 1; and if in such a case the casting of the slab be performed in one heat, or as nearly in one heat as possible, which can be done by organising a sufficient number of working gangs—in this case the whole floor, consisting of numerous squares, may be regarded as one homogeneous slab, which is therefore so largely self-sustaining that, when once it is set, it brings but very little of its weight to bear upon these girders, which apparently support it.

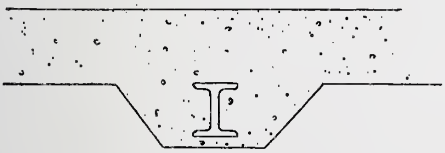

FIG. 1.

But if, as an example of another method, the girders be placed so that their tops are bare or else covered by a thin surface of concrete, as shown by fig. 2, the girders in this case practically cut the various squares asunder, so that each square naturally must bear wholly upon the girder.

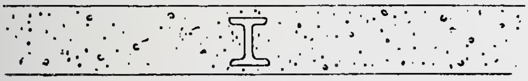

FIG. 2.

It will be obvious from these two examples that the former method, upon the score of strength, is distinctly preferable, though sometimes circumstances compel the use of the latter method; and whichever method is employed, it is always wise to make the girders strong enough to bear the entire weight, though they may never be called upon to do so.

You have all heard the story of the gentleman who advertised for a coachman, and when three applicants presented themselves he examined them, one after the other, in this way. He asked the first man, "How near can you drive to the edge of a precipice?" "Within a yard, sir." The second said, "Within an inch." The third replied, "I should keep as far off as possible, sir." "You are the man for me," said the gentleman. It would be rather alarming if in our designs we were even to approach the possibilities of strength in very thin concrete slabs; and if we were to establish our practice upon the minimum, I am afraid we should get very few clients.

We therefore, as architects, should be extremely careful in our work to allow a large excess of strength; but we should be likewise able to distinguish between a mere excess of strength and an excess of cost, at the expense rather than the gain of strength.

For example, if we introduce into concrete floors a large number of steel joists or girders so arranged as to cut the various sections asunder, the chances are that the cost of all this steel work will result in weakening the flooring as a whole, and certainly in rendering it less fireproof. If, upon the other hand, we were to construct an extensive floor-area of a large warehouse of one vast slab of concrete, with absolutely no subdivisions and no supporting girders, we might be charged with the same want of caution as the coachman who boasted of his being able to drive within an inch of the danger.

Between these two extremes I have endeavoured in my own practice to find a happy medium, consistent with economy and also with caution.

Notwithstanding all the care we may take, we are liable to accidents occurring from unforeseen causes, such as subsidence of foundations, vibration due to machinery either in the building itself or in the adjoining works, or to carelessness of workmen, both in casting the slabs and in erecting or removing the centering, also from inferior cement, which may be supplied in spite of every precaution. Therefore I consider, if we can obtain at small cost our auxiliary strength without reducing the fire-proof quality of our floors, we shall be well advised to do so.

The use of expansible metal lathing laid down upon the centering as the base on which the slab may be cast is undoubtedly an excellent precaution, but is unfortunately a rather costly one.

At one time, with a view to such precautions, I employed small iron rods embedded in the cement near its under surface; but my latest practice has been to stretch upon the top of the centering, before casting the concrete, galvanised iron wire sheep-fold netting, which costs very little, and certainly adds great reserve of strength to cover such contingencies as I have named.

I also find it very advantageous to lay down loosely upon top of this netting extremely light thin bars of angle or tee section, about three feet apart, which make very trifling addition to the cost of the floor, and afford still further safeguard, tending to check any movements of the building by binding the whole structure well together.

Some people think that cement floors are too cold, and accordingly cover them with wood, which, of course, involves a very great addition to the cost, having nothing but the sense of comfort to recommend it. For my own part, I think that a cement floor covered by a good cork-carpet is far preferable, and quite comfortable.

However well-seasoned wood-flooring may be, the boards will shrink, and when the floor is washed the moisture between the chinks cannot get away or be evaporated without, in time, tending to produce an undesirable state of mildew or decay. I am not arguing against parquetry floors laid upon a special glue, but I am dealing with floors of a more economical character suitable for ordinary dwellings.

Everyone recognises the danger attached to the premature removal of centering from concrete floors, of which we have had in the building world not a few lamentable examples; but there is another danger, not so generally recognised, which, with your permission, I should like to point out, namely, that of a too *sudden* removal of centering. Although the concrete may have had plenty of time to set, we must remember that its weight is resting upon the centering, and that when the centering is removed the slab must bend, however inappreciably, before it can become self-sustaining. The same thing is true of a wide-span masonry arch of any bridge, so that no contractor or engineer would ever dream of permitting the centering of such a bridge to be suddenly removed without first easing the wedges which sustain it.

Although the vertical movement of the mass of a slab in settling is generally too small to be measured, yet this slight movement involves the momentum of that great mass, which momentum may be sufficient seriously to damage, if not to wreck, the slab. It is, therefore, absolutely imperative that the wedges sustaining the centering of concrete floors should be carefully eased, and the centering allowed to stand a day or two afterwards, and the wedges should be then examined, and not till they are proved to be quite loose should the centering be taken down.

It was my intention to have stated at the outset one or two considerations in regard to relative strength of beams and slabs which by the aid of diagrams I may be permitted to explain now. Here (fig. 3) is a beam 10 feet broad, 1 foot deep, and 10 feet span. The effect of an equally distributed load, including the beam's own weight, can be shown, if we represent the load as subdivided into two halves, by two arrows. The arrow A represents that half of the load which is carried by the support B, and the arrow C likewise represents the other half of the load carried by the other support D.

It will be seen that each arrow is placed at half the distance from the support to the centre of the span, so that the equally distributed load, which has its own centre of action there, acts with a leverage of $2\frac{1}{2}$ feet, that is a quarter of the span. Now let us suppose that this same slab is supported not only at its two ends, but also at its two sides, that is all round its four edges, each edge sustaining a quarter of the total load. If we draw diagonals across the span of the beam, as shown by the dotted lines on fig. 4, we see that each edge carries as much of the load as is represented by each triangle, that is one-fourth. But the centre of the load equally distributed upon each triangle occurs at the centre of the area of that triangle, which is not 2 feet 6 inches from the support as in the case before-mentioned, but $1\frac{2}{3}$ feet therefrom. Thus, then, by allowing the square slab to rest on its four edges instead of on two only we reduce the leverage of the load from $2\frac{1}{2}$ feet to $1\frac{2}{3}$ feet, while at the same time we reduce the load itself acting upon each bearing edge from the $\frac{1}{2}$ to $\frac{1}{4}$ of the total load.

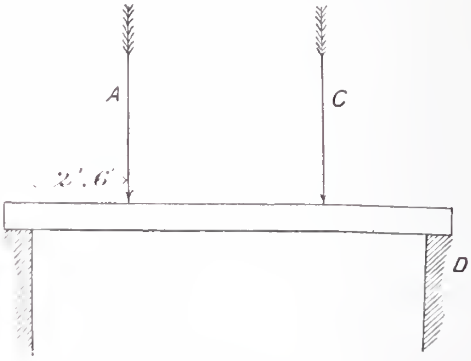

Fig. 3.

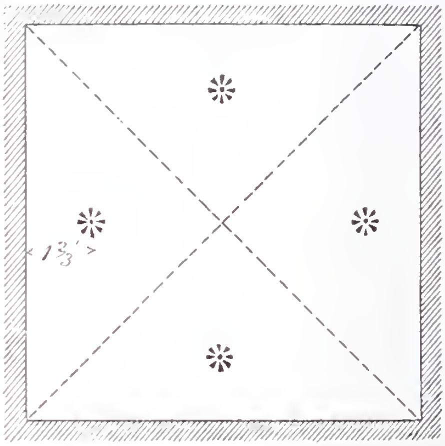

Fig. 4.

And thus we have in the first case $\frac{1}{2}$ multiplied by $2\frac{1}{2}$, that is $1\frac{1}{4}$ measure of stress, while in the second case we have $1\frac{2}{3}$ feet leverage multiplied by $\frac{1}{4}$ of the load, yielding only $\frac{4}{10}$ measure of stress, which means, in short, that a square slab bearing on its two edges under a given distributed load is stressed three times more intensely than the same slab under the same load supported on its four edges. In other words, a square slab supported on its four edges is three times as strong as when supported only on its two opposite edges. We may from this example jump to the general conclusion that rectangular slabs resting all round their edges are always three times as strong as beams of span equal to the slab's *length*, but in point of fact the difference between the strength of long narrow slabs bearing upon all their edges and of beams whose span equals the slab's *length* is much greater than would thus appear.

Suppose, for example, we were to test a concrete beam 1 foot deep by 1 foot wide by 10 feet span, we should find it would break under a comparatively small load; but if that same beam were supported along its sides as well as at its ends, three times the load which would break the beam of 10 feet span would utterly fail now to produce any visible effect upon it, and, indeed, we should find it practically impossible to break it by any load at all; for it would in truth be three times stronger than a beam of 1 foot span. The fact is, in comparing the strength of beams to that of oblong slabs, we must consider the *narrower* span of the slab as representing the span of the beam; and then it will always hold good that the slab is three times stronger than the beam, as before explained.

The text-book rule, that the strength of beams varies as their width, does not always hold good. For example, suppose that we were to compare the weight which would break the 1 foot deep by 1 foot wide concrete beam of 10 feet span with the weight which would break a concrete beam 1 foot deep by 10 feet wide by 10 feet span, we should find that the 10 feet wide beam would carry without breaking much more than ten times the weight which broke the 1 foot wide beam.

But the text-book principle, notwithstanding its limitations, reasserts itself when we come to apply it to the cases of beams of extraordinary breadth. If, for example, we consider the case of a concrete corridor floor 10 feet wide and 100 feet long, supported along the walls upon both sides, but having its extreme ends unsupported, we may regard it as a beam 100 feet wide of 10 feet span. Now we know that if we were to chalk out a 10 feet length in the middle of that corridor, that portion would bear one-tenth of the load which the 100 feet would sustain. Furthermore the 10-feet section thus chalked out would bear the same load as if the floor were supported by walls at the extreme ends, though there are no walls there, because the edges, so to speak, where the chalk marks are are supported by the adjoining edges of the corridor floor, and that portion which we chalked in the middle of the length of the corridor is thus practically in the same condition as a slab having all its edges supported.

The fact is, the effect of walls supporting the extreme ends of the corridor floor would not be felt throughout the entire length of the floor, but only for about 5 feet from each end, as their supporting effect extends in a triangular fashion limited by the two mitre lines as dotted on this sketch, fig. 5.

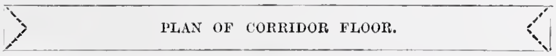

Fig. 5.

It will thus be seen that a large expanse of slab flooring has the remarkable principle of self-support to which the ordinary rule for gauging the strength of beams can apply only subject to important limitations.

Reverting to the case of girders which are beneath the level of the concrete slabs which they support, I must point out that it is very necessary that these should be protected from fire by being encased in solid concrete.

The largest slabs which I have carried out, I think, in my practice are about 33 feet long by some 17 or 18 feet wide by 7 inches thick. I have done many of about that size, all of which have proved quite satisfactory, but, as before said, I prefer, as a rule, to make them smaller.

As regards floors of ordinary cottages covering small rooms, no steel joists need be used, but I would introduce wire netting and the light steel bars before mentioned, and in such cases the floors need not be more than 6 inches thick, and I am satisfied that if proper care were used in mixing and casting and so on, a 4-inch thickness would suffice, for slabs not exceeding 12 feet span.

Referring to the sketch fig. 6 [see next page], for any given thickness of concrete, the stress of square slabs due to their own weight and to their distributed loads is, for reasons already stated, always proportional to their areas, multiplied by one-sixth of their span. Thus, if we know that, as shown by fig. 6, a slab of 10 feet square by 4 inches thick will carry safely a load of 9 cwt. per square foot, we may conclude that a 4-inch slab 5 feet square would carry a load of 72 cwt. per square foot; and similarly a 4-inch slab of 20 feet square would carry safely a load of $1\frac{1}{8}$ cwt. per square foot, including its own dead weight.

The greatest stress of a square slab occurs at the mitres nearest the wall bearings.

I had a slab without wire webbing, 20 feet square by 6 inches effective thickness, broken along the mitres when five weeks old by the sudden removal of the centering through neglecting to ease the wedges. That slab was still green. Had it been bone dry, and its centering cautiously relieved, I think it would have safely sustained a load of $2\frac{1}{2}$ cwt. per square foot, that is about 2 cwt. per foot over and above its own dead weight.

Heavy tail-weights of walls on concrete slabs resist movements of expansive force, and tend to improve the strength of the concrete not only by the counter-leverage due to encastrement, but also by the compression thus induced, so that the lower floors of a building of many stories high generally show fewer contraction cracks than the top floors do.

When the centerings are first removed, the under surface of the slabs from which air has been excluded are invariably damp, or, as the technical term has it, "green," like stone cut fresh from the quarry. Exposure to the air dries and hardens the concrete, and the general strength and rigidity due to this drying are so great that I consider slab floors three months after removal of their centering, are probably about three times as strong as at the beginning of that three months.

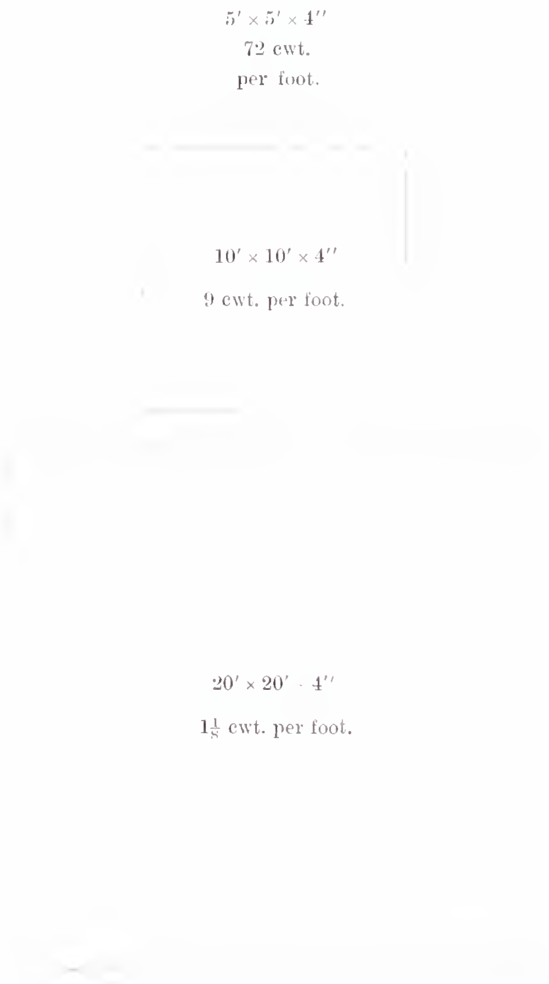

Fig. 6.

Seeing that the stress of slabs under uniformly distributed loads is proportional to the cube of their span, it will be obvious that great reduction of stress is obtainable by forming the slabs with coved edges as shown by fig. 1 on a previous page. Suppose, for example, we are dealing with slabs about 12 feet square, similar to those I have recently had cast at Messrs. Swan & Hunter's new offices at Wallsend, and we reduce the flat part to 10 feet square by means of our cove, the greatest stress is reduced accordingly as from the cube of 12 to the cube of 10, that is about 24 per cent., and at the same time these coves serve to enclose the steel supporting-girders, thus protecting them from fire.

If time permitted there is much more I might have said on the subject, not only regarding concrete floors, but also as to concrete roofs, which, from a fire-proof point of view, are certainly not less important.

Thus far my remarks have been so discursive that I feel it necessary, in closing this lecture, to focus, in the form of general rules, some of the conclusions to which twenty years of special experience have led me in regard to the construction of concrete slab floors.

1. To take pains to obtain old cement. 2. To use good broken-brick aggregate, and not sand, in the proportion of four of brick to one of cement for the body of the slab, and fine crushed-granite without sand for the surface coating, having about three of granite to one of cement. (I may say I have found that when the surface coat is gauged two of granite to one of cement, it sets too soon, while the continued expansion of the body beneath is still going on, and this causes minute cracks, tending to deface and spoil the surface.) 3. To adopt, as precautionary provision, sheep-wire netting as the base, and steel angle or tee bars weighing not more than 1½ lbs. per lineal foot, spaced about three feet apart on the netting. 4. To consider a slab 10 feet square by 4 inches thick as capable of sustaining a load of 9 cwt. per foot including its own weight, and to reckon that every slab will bear per square foot more or less than 9 cwt. directly in proportion to the square of its thickness, and inversely in proportion to the cube of its span. When the slab is rectangular the minimum span has to be considered the span. 5. To avoid casting slabs in frosty weather. 6. To insist upon organising the gangs of workmen so as to cast as large an area of slabs as possible in one heat, and never to allow a slab to be left overnight with its area only partially cast. 7. To insist upon strong centering, and to keep it all standing not less than five weeks after the last slab of the series of one flat is cast, and absolutely to forbid and prevent the sudden and careless removal of the centering.

In conclusion, you must please understand that in making no reference to many other methods of concrete-flooring which are more or less successfully practised, I have no desire to cast any reflection upon them, but have thought it best to confine my remarks to my own experience, and to speak the things which I know rather than those of which I have heard.

Thirty years ago Messrs. Pedder and Brannon, architects, erected near the gas-works at Hendon, Sunderland, two concrete cottages, which, after completion, they filled with straw and other combustibles, and, in the presence of a company of well-known Sunderland townsfolk, set fire to. No visible damage resulted at that time, and the cottages have been occupied by tenants, I believe, ever since. A few weeks ago the present proprietor took me down to inspect them. I found them in excellent condition, in fact as good as ever they were. The working people occupying them are paying good rents, and the proprietor is about to build four similar fire-proof cottages adjoining, plans for which have been recently approved by the Sunderland Corporation.

The test of a fierce fire and of thirty years' subsequent wear and use, permits no other conclusion than that fire-proof cottages for the people can be built cheaply, substantially, and sanitarily. And in this case the proprietor finds little or no main structural repairs needed after thirty years of rough use.

Gentlemen, I think we shall all do well to lay these facts to heart, and to do, each of us, what we can to help bring about a great reform in the shape of fire-proof homes for the common people.

Discussion.

Mr. Frank Rich [*F.*] proposed a vote of thanks to the lecturer, and, after referring to the boldness of his various concrete works, said he should much like to know to what extent steel joists and girders were stiffened and strengthened by being enveloped in concrete. This question was seriously discussed during the erection of the Durham College of Science, and Dr. Garnett, as then Principal of the College, intended making experiments thereon. But since Dr. Garnett had been called off to advise the London County Council on technical education, nothing had been done with those experiments, and Mr. Rich contended that the Royal Institute of British Architects would do well to undertake them. In his own practice he economised the scantlings of girders which were to be encased in concrete; for though, in the absence of experimental data, he could not presume to say how much additional strength girders derived from such encasing, he was quite satisfied the gain of strength is considerable.

Mr. Joseph Oswald [*F.*] seconded the vote, and expressed the satisfaction with which he had listened to the lecture, and more especially to the lucid explanation of the effect of various sizes of slabs on their strength, as shown by the diagrams. He would like to know the gauge and size of mesh of the wire-netting employed by Mr. Caws.

Mr. Bruce said he would like to propose that the paper should be printed, so that all might study it.

Mr. Glover [*President N.A.A.*] in putting the vote remarked that he had much enjoyed the lecture, as it was so thoroughly practical. He added, that as the lecture would appear in the R.I.B.A. Journal, that would meet Mr. Bruce's requirement.

Mr. Caws, in replying to the vote of thanks, gave an interesting actual illustration from his own practice of the relief to a girder from the stiffening of the concrete. He said the wire-gauge of the netting was thirteen, and the size of the mesh 3-inch. The netting cost about 4*d.* per square yard nett, and 6*d.* per square yard fixed.

Mr. Rich remarked that he was at present constructing some concrete floors designed to bear one ton load per square foot.

Mr. Caws asked the price per square yard complete.

Mr. Rich replied, "About a pound."

Mr. Caws congratulated Mr. Rich upon having clients willing to erect fire-proof floors at such cost.

Several members demurred slightly to the lecturer's condemnation of sand, but Mr. Caws, while admitting that his objections applied with less force to coarse sand, restated his dislike to fine sand, giving actual instances of its ill effect on floors which had come under his own observation. He pointed out that, during the process of setting, the cement crystallises into a granular substance which, if its grains be coarser than those of the sand employed (as they quite easily may be), then the sand is not bound by the cement, but tends rather to wedge between and disintegrate the cement grains, preventing them from adhering to each other. And, as he could not be sure of getting specially coarse sand, he preferred to discard sand entirely, and go in for crushed-granite instead.

Mr. Rich remarked that, as concrete buildings are air-tight, special care is required in planning them to make adequate provision for ventilation; and Mr. Caws said his own experience certainly bore out the truth of this observation, the importance of which could not be too strongly urged.

The President, in concluding the meeting, said the informal conversation which had followed the vote was interesting and useful to everyone present. Such mutual interchanges of experience were always helpful to fellow-architects.

9, Conduit Street, London, W., 10*th March* 1900.

CHRONICLE.

The Royal Gold Medal 1900.

The Special General Meeting convened for the 5th inst. to elect the Royal Gold Medallist for the current year was duly held, and resulted in the election of the distinguished gentleman nominated by the Council—viz. Professor Lanciani, D.C.L. Oxon. [*Hon. Corr. M. Rome*].

Special Election to Fellowship.

At the Business Meeting last Monday it was announced that at the Meeting of the Council held that day Mr. Edward Augustus Ould, President of the Liverpool Architectural Society, had been elected a Fellow of the Royal Institute under the proviso to By-law 9.

The New Street from Holborn to the Strand.

In the course of the proceedings at the Business Meeting last Monday Mr. Wm. Woodward [*A.*] asked leave to call attention to a statement in the draft Report of the Improvements Committee of the London County Council, printed in *The Builder* of the 24th February under the heading "Architectural Features of Holborn to the Strand Street"—viz. that the conditions of the scheme for obtaining designs for the elevations of buildings in the new street had received the full approval of the Institute Council. Mr. Woodward then referred to the President's letter in *The Builder* of the 3rd March publicly disavowing such approval and pointing out that the statement in question was entirely without foundation. The matter, Mr. Woodward insisted, was t of such moment that he trusted the Council would afford the Meeting the fullest information they were in a position to give as to what had taken place. The Chairman, in reply, stated that the subject of Mr. Woodward's question had been before the Council at their meeting that afternoon. The Council, as the President had pointed out, had never been officially approached respecting the details of the scheme. There had been some misunderstanding, which he believed would be set right in the Revised Report of the Improvements Committee. As regards the details of the competition, the Council were moving in the matter; they had every desire to co-operate harmoniously with the London County Council, and every hope that such co-operation would result in a satisfactory scheme.

Alteration of By-laws respecting the Constitution and Election of Council.

Pursuant to notice, a Special General Meeting was held at the conclusion of the Business Meeting last Monday, to receive, and decide for or against the adoption of, the recommendations of the Council respecting alterations in By-laws 25, 29, and 30, as printed in the paper convening the Meeting—viz.:

1. That in By-law 25 the words "thirty-six" in the first line be altered to "thirty-eight," and that the word "two" in the second line of section (*a*) be altered to "four."

2. That in By-law 29 the second sentence be altered so as to read, "Any Associate shall be eligible to serve as an Associate-Member of Council."

3. That in By-law 30 the word "three" in the seventh line be altered to "six;" and further that the words "but the names of members of the existing Council shall be distinguished by an asterisk" be omitted from the same By-law.

The object of the proposed changes was (1) to increase the number of Associate-Members of Council, so that there shall be four instead of two; (2) to free a large body of Associates of a present disability to serve on the governing body, by removing the restriction confining Associate-Members of Council to those only who have been in independent practice not less than three years; and (3) to omit from the balloting paper any distinguishing mark against the names of members of the existing Council. As regards By-laws 25 and 29, the changes were proposed in response to representations made by a body of Associates that their class was insufficiently represented on the Council; and as regards the second alteration in By-law 30, to meet an objection that the asterisk against certain names on the balloting paper was prejudicial to the election of those not so distinguished. The Chairman reminded the Meeting that under the Charter Fellows only were entitled to vote in respect of alterations in the By-laws.

Recommendations 1 and 2 having been proposed and seconded were declared duly carried.

With regard to the first portion of the third recommendation, this was shown to be necessary by the increase of Associate-Members of Council dealt with in the first recommendation—it meant that at least six Associates must now be nominated instead of three, and that four of them would be elected.

Mr. William Woodward [*A.*] proposed that not less than "nine" Associates should be nominated by the Council for election.

Mr. Edwin T. Hall [*F.*] pointed out that it would be open to members with the requisite number of backers to nominate nine or any greater number. The machinery for that already existed. The By-law as modified provided that the Council should nominate not less than six. It might happen on some occasion that they could not get nine nominees, in which case the voting-papers might be invalidated, and they would get no Associates elected at all.

Mr. W. D. Caröe [*F.*] said that Mr. Woodward's argument carried to its logical conclusion would mean that some forty Fellows ought to be nominated to serve as ordinary Members of Council, though only eighteen of them could be elected.

Mr. Woodward's amendment being put to the vote was lost, and Recommendation 3 being moved as a whole was thereupon carried.

Mr. Woodward said that, following on the latter portion of the resolution just passed, he had promised to second a proposition to be brought forward by Mr. H. H. Langston if he had been able to be present. His proposition was that the number of consecutive years each member had served on the Council should be added to his name on the balloting paper. As Mr. Langston was not present he begged to move that proposition.

The Chairman said that, as this involved an addition to the By-law, the Council should have had notice of the proposition. As the matter stood it could not be voted upon at that Meeting. There had been much said as to the length of time many members had served on the Council. As a matter of fact but few of the ordinary members had been on more than three or four years, which showed that fresh blood was not wanting on the Council.

Mr. Caröe said he had always strongly supported the introduction of young blood. He had been rather surprised to find that there were so few senior members of the Council who had served so long as five years, and he regretted to say he was one of them.

Mr. Hall said that practically the only man who would come under the disability of age, if he might use the phrase, would be Mr. Gruning. There was, however, no more energetic member in the Institute than Mr. Gruning, and his retirement would unquestionably be a serious loss both to the Institute and to the Council, because of his great experience in all matters appertaining to the practice of an architect. Mr. Gruning had been a member of the Council for something like twenty years, but he thought Mr. Woodward would be the very last man to vote against him. If, however, it once got abroad that, because a man had been a member of the Council for so many years he should be struck off, people who did not know Mr. Gruning might vote against him.

Mr. Woodward desired to say at once that if it was thought the suggestion he had made would lead to the state of things mentioned by Mr. Hall with regard to Mr. Gruning, he would immediately and most willingly withdraw his suggestion. If there was a man in his opinion most useful to the Institute from his varied and practical knowledge and remarkable vigour, it was Mr. Gruning. With the possibility of such a loss staring them in the face, he hoped the suggestion might be dropped altogether.

Mr. Hudson [*A.*] said he was glad to hear Mr. Woodward so express himself. He could not see the use of taking away the asterisk before the name and then giving these particulars. Members could seek out from former Kalendars how long candidates had served, and take steps among themselves if they thought fit to vote for younger men.

Mr. Owen Fleming [*A.*] said that he should like, on behalf of those with whom he had been working, to express their thanks to the Council for the way in which they had met the views of the deputation that waited on them some few months ago. If he might say so, this was perhaps almost an occasion for a new departure in the policy of the Institute. Looking back on the history of the past four or five years, it was evident that there had been dissatisfaction among some of the junior members, which ultimately found expression in a sort of guerilla warfare. That condition of affairs was eminently unsatisfactory to the Institute as a whole and to everyone concerned, and it led to the adoption of some form of elementary organisation to formulate definitely the views that were being irregularly expressed by individual Associates. That organisation had grown, and had been well supported by Associates—in London by personal effort, and in the provinces by subscription. The whole arrangement culminated in the deputation that approached the Council some six or eight months ago. They had not got all they asked for—perhaps they did not quite expect all they asked for—but they had received a good deal of what they desired to get. There was one thing they had not yet obtained, and that was the working together of Associates and Fellows as one body. This co-operation they must endeavour to build up for the welfare of the Institute as a whole. He hoped, too, that some further outlet would be found for the energies of the Associates in actual work for the Institute, much in the same way as in the Architectural Association, where they had Sub-Committees who were charged with the investigation of particular phases of work, and who discharged particular obligations. In conclusion he was sure he was expressing the feelings of all those who had joined in the difficult work that they had undertaken, in offering their profound thanks for the conciliatory way in which the Council had met them.

The Chairman said he was sure the Council would feel gratified at this expression of appreciation and thanks on behalf of the Associates. It was the wish of the Council, as well as everyone else, that the Associates should work with them and do all that could be done for the good of the Institute.

The late William Butterfield.

The Chairman (Mr. W. M. Fawcett) of the General Meeting of the 5th inst. made regretful reference to the decease of Mr. William Butterfield, F.S.A., and thought that the occasion should not pass without some record on their Minutes. Mr. Butterfield was not a member of the Institute, but he was admired and esteemed by members, who had shown their admiration for his works by nominating him for the Royal Gold Medal, which was conferred upon him in 1884. Mr. Fawcett said he was requested to state that a memoir of Mr. Butterfield would appear in the JOURNAL, and concluded by moving that a note of regret for his loss should be entered on the Minutes, and a letter of condolence be sent to his nephew, his nearest surviving relative.

Mr. Basil Champneys' Paper.—It should have been stated that the view of the principal front of the John Rylands Library, Manchester, given on page 107, was from a copyright photograph by Messrs. S. B. Bolas & Co., of Oxford Street, by whose kind permission it was reproduced in these pages.

REVIEWS.

MODERN ITALIAN ART.

History of Modern Italian Art. By Ashton Rollins Willard. (Longmans, Green, & Co., Paternoster Row.)

This book is written, in spite of its title of a "History," rather from the critical than the historical point of view. Its real and even professed object is to show that modern Italian art deserves more consideration from the world than it at present receives, to recall attention to it, and to chronicle the achievements and the gifts of the principal modern Italian artists, many of whom are to the English art world at present only names, if they are even that.

In opening his subject Mr. Willard asks the reader to go back with him to the beginning of the present century, and to endeavour to realise what was the estimation of modern Italian art at the time when the name of Canova was one of world-wide fame.

> "Such as the great of yore, Canova is to-day,"

wrote Byron in *Childe Harold*; Byron, whose critical perception of art was shallow enough, but who gave expression in these matters to the general convictions of his own day. In less concise language Mr. Willard thus describes the situation:—

> "It is impossible to take up a memoir or biography of that period, touching the life of a person interested in art, without observing that the Italian art of the day was a matter of vital concern, more particularly the sculptural art. Canova's reputation was then at its height. Everyone who had the slightest contact with him magnified it in his conversation and in his correspondence. This was particularly true in England at the time of the readjustments following the final defeat of Napoleon in 1815. The gifted and amiable Italian, who for twenty years had been delighting the whole art world by his graceful creations, was then in London—called there to pronounce an expert opinion on the Elgin marbles. He was revered as the greatest plastic artist of his time. His voice was the Delphic oracle of sculpture. A single immersion in the current of art-opinion of that day would leave one in a wholly readjusted attitude towards modern Italian art; certainly towards its possibilities. It would give the reader a tendency to look upon the subject without prejudices, and a willingness to consider the Italian artist in a favourable light, which I should be most glad to create in his mind here at the beginning of this first chapter."

But would it have this effect? Many people who nearly ignore Canova at present would, no doubt, be very much surprised if they could realise for a moment what he seemed to be to the art-world of his own generation; but would this realisation alter our present view? It may be admitted that Canova is underestimated at present, and that if he was not a great sculptor he was a very remarkable one, not only for the gracefulness of his work, but for the immense amount of it which he produced. One conception of his, the "Cupid and Psyche," will perhaps always retain its hold upon us as one of the most graceful translations of the passion of love into sculptural form. But the critical standpoint is altered. We know very well now why Canova does not retain the place in art which he looked to have and which his contemporaries prophesied for him. It was because he was only an echo of the antique—a classic at second hand. We have the same phenomenon in the case of Gibson, once thought to be England's great sculptor, and who in the confidence in his own greatness left his collected works, or the casts of them, to the Royal Academy, on condition the Academy built a gallery for them; a condition which was very inadequately carried out. But who cares much to go into the Gibson gallery now? It represents a dead art. In his belief in Greek art instead of in nature as the fountain of inspiration, Gibson wasted his talents on unrealities, and the one really living work among his important productions is the "Hunter and Dog," a piece of nude *genre* which is natural and powerful, and owes little or nothing to Greek precedent.

The author seems to admit, indeed, that the main influence of Canova on the modern Italian school of sculpture was to bring about a reaction. No one, he says, can understand Bartolini, "the great modern leader," without understanding Canova; not, however, as we take him to mean, because Bartolini follows Canova, but for the opposite reason—that an important element in Bartolini's work was to get away from what Canova had done. And this, if it be the case, may be taken to be one explanation of the extraordinary tendency towards unsculpturesque realism among modern Italian sculptors. They had found out the pseudo-classic mistake of Canova and his school, and rushed in the opposite direction into works in which what ought to have been *genre* paintings were translated into marble carving, with all the details of costume—"hat, and coat, and hymn-book too." From this most degraded form (intellectually considered) of realistic sculpture the Italian school seems now to have emerged again; the subjects treated are more sculpturesque, but the productions appear seldom to rise above a pleasing mediocrity; and this result seems to argue a want of *stamina* in the modern Italian mind. We have had in England the same reaction against pseudo-classicism in sculpture, but with what a different result! English sculpture, for artistic interest and vitality, is now second only to French, and it has the merit, moreover, of having avoided the fault of violent and exaggerated action which is unfortunately too much invading recent French work. The best of the modern Italian sculpture seems to have achieved little more than the negative merit of avoiding bad taste.

If there is more to be said for it than this, the author has not given us proofs of it. His only illustration from Bartolini's work, the Demidoff monument at Florence, is a *fade* affair, and appears to be quite in the school of Canova. Possibly this was done before Bartolini "came to his colours;" in the latter part of his life (he died in 1850) it appears that he had set up in so many words the standard of realism—"Everything in nature is beautiful in its way, and he who learns how to copy has learned the whole lesson of art;" an ideal as far wide of the mark in one way as Canova's was in another way. But in a book like this, the object of which is to recommend modern Italian art to English readers, copious illustration was a *sine quâ non*; so little of either painting or sculpture of the modern Italians gets to our exhibitions.

Concerning the few illustrations given, one may say that the bane of the best of them is a certain undefinable sentimentalism. This is the quality of Dupré's "Pietà," and of Monteverde's "Madonna and Child" at Genoa; the latter very pretty, but rising to no higher character. Ferrari's "Ovid" is a finely draped classicality, the stern aspect of which, however, is little in keeping with one's natural ideal of that exceedingly amorous poet. The symbolical "Revolution" by Ximenes, on the other hand, is melodramatic, a kind of petrified *scream*. Tenerani, who was one of the earlier successors of Canova, and one of those whose works are best known in England, probably attained a greater breadth and repose of style by coming under the influence of Thorwaldsen. His figure of the "Angel of the Resurrection" in Castle Ashby Church (one apparently of several repetitions of the subject) shows this influence in a marked manner, and almost suggests a weak Thorwaldsen statue—Thorwaldsen shorn of his Scandinavian vigour: but it has repose and dignity.

Modern Italian painting is even less known in England than sculpture, and illustrations in the book are even scarcer, so that it is hardly worth while to say more than that the information here given may be very useful to those who are likely to be in the way of visiting exhibitions or collections of modern Italian paintings, in letting them know something about the various artists and what to look out for. Among the few illustrations Laurenti's half-length of a girl, under the title "Candidum Lilium," is a very pleasing *genre* picture, remarkable for its simplicity and directness of treatment. One of the recent Italian painters, Boldini, who has become a resident in Paris and was a regular exhibitor at the "New Salon," is therefore more familiar to Englishmen. His portraits, which receive great praise from the author, are undoubtedly very clever in a kind of sensational way, but their style seems to me detestable both in regard to colour and character. Boldini had a portrait group of a well-known Paris artist and his wife and daughter in the New Salon some years ago, about which another member of the family expressed himself to me with absolute anger, saying it was in the worst possible taste and a mere caricature of the people represented.

A chapter is devoted to the modern architects of Italy. One of the most prominent among the earlier men of the century, Cagnola, is illustrated by his Arch of Peace at Milan, which, however, is a mere modern repetition of a Roman triumphal arch, carried out with good taste and a feeling for symmetry and proportion. Modern Italy has had her Classic revival and her Gothic revival, like England, and among those who belong to the latter (and later) school De Fabris has obtained a lasting fame as the architect for the façade of the cathedral of Florence, though the façade as built does not either represent Gothic revival or the real predilections of the architect, who wished to have a three-gabled façade, on the model (in a general way) of Orvieto and Siena, while those who wished for a façade on the more classic lines, and following the slope of the roof, carried the day with the help (oddly enough) of Viollet-le-Duc, whose opinion was asked for, and who gave it in favour of the single low-pitched gable, as carried out. I think he was right, and that the treatment adopted is more in keeping both with the style of the remainder of the church and with considerations of artistic truth than De Fabris' three gables standing up in the air would have been; but De Fabris, though bowing to circumstances, never altered his own opinion, and declared "he should die unrepentant of the three gables." Readers will find in these chapters also some information as to the late Signor Brentano, the successful young architect in the Milan façade competition, who so sadly died just as fame and fortune seemed within his grasp. Among others who are prominent are Signor Sacconi, the architect of the Victor Emmanuel monument at Rome, Signor Beltrami, of Milan, who obtained a second premium in the façade competition, and whose name is well known to English architects, and Signor Calderini, whose Palace of Justice at Rome is now in progress. The late Signor Basile, of Palermo, the architect of the great theatre at his native city, seems, however, to have had most claim of any of the modern Italians to the rank of a really great architect, though he retained his adherence to the pure classic style after the reaction against it had set in. But he was one of the few classic architects of Europe who treated this style of building with something of the grandeur and massiveness of its Roman originals; he was in Southern Europe somewhat of a counterpart to Poelaert in Northern Europe; and as the latter had his great opportunity in the Brussels Law Palace, so Basile had his opportunity in the Teatro Massimo at Palermo, which was built regardless of economical considerations, and is in its way a really impressive and remarkable structure.*

Mr. Willard's book is throughout admirably written and apparently based on full knowledge of his subject, and would be an excellent text-book for anyone who went to Italy with the express object of studying modern Italian art. Most of us who visit Italy for a short period do so to study the great works of the past, not the weaker ones of the present; and it is probably only to Englishmen who have become permanent residents in Italy that her modern art is or can be much known at first hand. Hence the desirability, already referred to, of copious illustrations, the want of which is the one defect of this book.

H. Heathcote Statham.

WIMBORNE AND CHRISTCHURCH.

Wimborne Minster and Christchurch Priory: a Short History of their Foundations and Description of their Buildings. By the Rev. Thomas Perkins, M.A., F.R.A.S., Rector of Turnworth, Dorset. With Illustrations from Photographs by the Author. 8o. Lond. 1899. *Price* 1s. 6*d.* [*George Bell & Sons, York Street, Covent Garden, W.C.*]

This book is one of a series of Cathedral histories which are being published by Messrs. G. Bell and Sons. It supplies a want which has long existed of a well-written handbook in a cheap and portable form to these interesting churches, which have become in late years so well known, owing to their close proximity to Bournemouth.

The history of Wimborne Minster has been well and ably put together, and the information brought up to the latest date. The illustrations are numerous, original, and being principally from photographs are clear and well defined. The author suggests that the name Wimborne is a contraction for Winterbourne, so many villages in the county of Dorset being so called; but, as he himself observes, these are all situated beside streams of water that flow only during the winter months; whereas the river Allen, which has its course through the town of Wimborne, flows on through the summer as well as the winter. The usually accepted origin of the word from the river Win or Alwyn, now called the Allen, is, however, the most probable, although for some reasons the definition of the first part of the word from *Twin*bourne is preferred by many, the town being situated at the junction of the rivers Stour and Allen.

A slight error is made in describing the routine of the duties carried out by the three Priest Vicars under the Royal Peculiar. Instead of a month they each served for a week in turn, the one in residence taking all the fees, &c., payable during the week, one of the other priest vicars acting as his curate in the Minster, and the third undertaking the services at the chapel at Holt, a hamlet about three miles away.

A capital description is given of the history of the building from its earliest days, and the various changes and alterations that have taken place from time to time are alluded to. In describing the alterations in the chancel made in 1866 a mistake is made in saying "the remaining stalls were taken away." These, with the canopies, &c., were all ruthlessly swept away at the time of the restoration in 1855, with the exception of the four stalls on each side of the chancel. In 1866 they were increased to their present number to provide sufficient accommodation for the choir, and the level of the platforms again raised to the heights they occupied before the restoration in 1855.

As may be expected, the author is very severe in his criticisms of the necessary works of reconstruction that have taken place from time to time. In speaking of the last of these works, which were carried out under the late Mr. Pearson in 1891, he says, "These were taken in hand with the usual result, namely, the destruction of some existing features, such as the seventeenth-century tracery of the north window, and the raising of the walls, &c." An examination of the north elevation on page 21, from a photograph taken before these alterations, will clearly show what had taken place, viz. the whole of the cusping, &c., of the tracery of the original window had been cut out by some economical churchwarden, and the intermediate mullions lengthened to support the apex of the smaller arches of the side-lights, to permit the easier and cheaper glazing of the window; and the oval window in the centre was hung in a heavy iron frame, which at one time opened on centres. The window was most unsightly in its mutilated condition; as much as possible of the old stonework of the jambs and mullions have again been refixed, although the author rather leads his readers to suppose that the old window "was only removed to make room for a nineteenth-century window in decorated style, which, however, differs from any window in the Minster." He goes on to find fault with the restoration of the roofs to their original pitch, which necessitated raising the walls of the transepts. During the progress of the work ample proof was found that the walls had been lowered, and the water tabling on the exterior of the lantern tower showed the exact position the Norman roofs occupied. The sun dial, which was balanced on the apex of the south transept gable, was not refixed in that position, because of its great weight, which had been the probable cause of the giving way of the masonry of the gable and its hanging over so much to the south. From the marks found on the masonry it had evidently been removed from some other position before being fixed on its lofty home. It will be seen that the author takes great care to point out the mischief that was done during the recent reconstructions, but gives no credit to the architect for the bringing to light of the interesting features that were uncovered and again exposed to view during the progress of the works—viz. the altar recess in the north transept, with its mural painting of the Holy Rood, with three if not four paintings of the same subject one over the other, and the remnant of an alabaster shrine walled in to support the foot of the cross, or the remains of the beautiful shafted window discovered in the east wall of the south transept.

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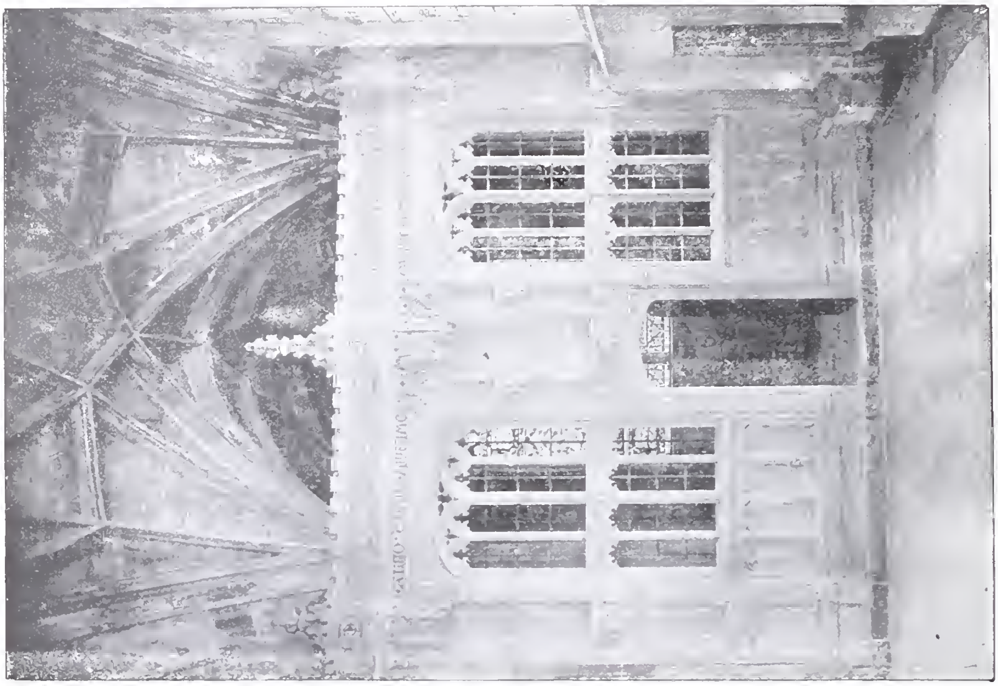
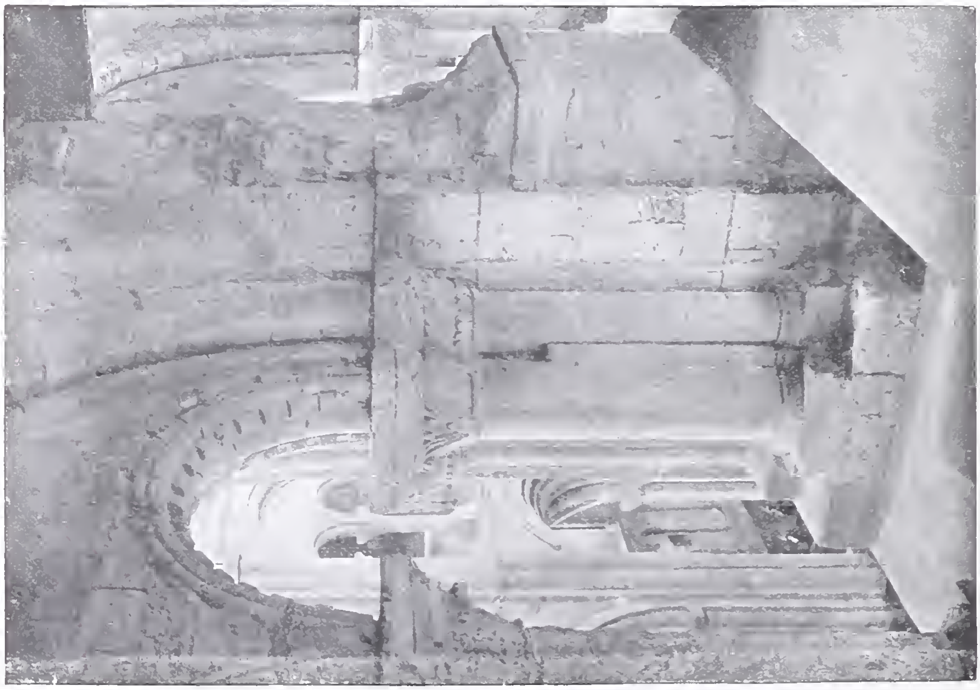
* Elevation, section, and plans of this theatre will be found in *The Builder* for January 4, 1896.

WIMBORNE MINSTER : ENTRANCE TO CRYPT.

We are all much indebted to the Rev. Thomas



CHRISTCHURCH PRIORY: THE DRAPER CHANTRY



CHRISTCHURCH PRIORY: FROM THE NORTH TRIFORIUM.

Perkins for his graphic and able description of the early history of Christchurch Priory, showing as it does an intimate knowledge of the subject which must have entailed a vast amount of resource and study.

In his description of the various renovations that have taken place he speaks, as one would expect, entirely from the antiquarian point of view; he finds fault with the restorer for attempting to imitate the tooling of the old stonework, and suggests that the old stones ought to have been left, "even if much decayed." He finds great fault with the restoration of the chapel at the east side of the south transept, "where this reprehensible practice is carried to its fullest extent."

We should probably all agree with him in condemning the removal of the plaster from the walls of St. Michael's Loft. He admits that a large and old building such as this needs constant repair to keep it sound; but how this can be done without replacing the decayed and weather-worn stones it is rather difficult to see.

The description of the building seems to have been taken to a large extent from Mr. Ferrey's work. It conveys a very good description of the church and will prove most useful to the student.

The views which accompany this notice are specimens of the excellent illustrations given in the book. W. J. Fletcher.

SANITARY SCIENCE.

The Plumber and Sanitary Houses. By S. Stevens Hellyer. Sixth Edition. 8o. Lond. 1900. Price 12s. 6d. [B. T. Batsford, 94, High Holborn.]

In many respects the simple announcement of the issue of the sixth edition of an important technical work would seem sufficient testimony of its value; but, as Mr. Stevens Hellyer continues to add matter of great interest to each successive issue of his book, the sixth edition of *The Plumber and Sanitary Houses* demands more than passing notice.

Few architects would expect to find in this treatise a chapter upon the purification of sewage; such, however, exists, and herein is the principal feature of the latest edition. Mr. Hellyer is ever well abreast of the times, and while confessing that he is neither a chemist nor a bacteriologist clearly describes the best means of sewage purification now in use.

Among the new illustrations of sanitary appliances a view of an elaborate white-ware enclosure to the "Optimus" valve closet is given. This enclosure, almost cubical in shape, seems to bridge over the considerable gulf between the time-honoured enclosed wood seat with its hidden evils and the pedestal in all its solitary nakedness. In connection with these closets Mr. Hellyer says, "For fixing upon fire-proof floors I have patented a valve closet, 'Optimus H,' with a special lead trap arrangement for turning round to any point of outlet at the back and above the floor."

In the chapter dealing with slop sinks and their wastes new illustrations are given of very modern hospital sinks, with special arrangements by which bed pans may be flushed in an inverted position.

A new illustration of white glazed circular-backed urinals without basins draws attention to a design that has much to recommend it in appearance and apparent cleanliness; but the splashing difficulty, not yet overcome in this pattern, is pointed out by the author.

An interesting note under the section devoted to water supply describes the Chamberland-Pasteur filter and the Berkefeld filter. These are the only two out of many tried and reported upon in the *British Medical Journal* that arrest the passage of disease germs. The essential difference between these two patterns appears to be their relative speed in working. The former filters somewhat less than a quart per hour under a pressure of about 32 lbs.; the latter filters 20 gallons in the same time under a pressure of about 35 lbs. The illustrations show the method of fixing these filters on the drinking supply with, in one case, an arrangement made by Mr. Hellyer's firm for storing the filtered water to make the otherwise very slowly arriving product of the Chamberland-Pasteur filter available for immediate use.

Unquestionably the most important addition to the work under review is the chapter upon that difficult subject cesspools and their overflows; with this is incorporated notes on the purification of sewage previously referred to. The author truly says cesspools should be abolished, but for several reasons in many districts this is impossible for the present. So Mr. Hellyer describes and illustrates a system for a house in the country, comprising an inspection chamber, screening tank, and soakage cesspool, the latter introduction assuming that no water is drawn from wells within a given radius of the cesspool. Happily, we think, many urban district councils do not allow such soakage cesspools. Where they are permitted few are constructed that work so satisfactorily as the one described by the author. In closing this part of the subject Mr. Hellyer, however, states that "it is better to dispense with cesspools and treat the sewage by some good system, so as to secure a pure effluent, and there is now no difficulty in doing this." The author describes and illustrates the septic tank system of sewage purification by drawings of an installation carried out by his firm. The plan will be recognised in its essentials as the arrangement first brought to prominent notice, we believe, by Mr. Cameron, of Exeter, and now familiar to those who have studied this engrossing subject. Mr. Hellyer's statement that there is now no difficulty in obtaining a pure effluent requires, perhaps, some qualification. For instance, the quality of the effluent obtained, whether it be by precipitation, chemical treatment, filtration, or by septic tank treatment and aerobic action, is scarcely ever constant, and the standard of purity insisted upon by local authorities who have the care of rivers and streams, and who are now very much alive to this question, is difficult to maintain. Nor does the difficulty end with the production of the pure effluent. The effluent must be regularly and efficiently dispersed. In cases where the flow is direct into a watercourse the sample bottle is continually in use, and in cases where the disposal is by irrigation sufficiency of area and suitability of soil are exacting essentials. And over all must be a watchful eye with intelligent management. Whether or no all this can be had and be maintained in other than public installations the next few years will probably show. Meanwhile Mr. Hellyer indicates that he is concerned with the importance of producing appliances that will help to the solution of one of the most pressing difficulties of modern times. The chapter on sewage treatment alone will make the sixth edition of *The Plumber and Sanitary Houses* notable. As to the work as a whole, the excellence of the type, the profuse illustrations, the careful lettering of the "cuts," the accurate references thereto in the text, the racy and sometimes grimly humorous style Mr. Hellyer adopts, all make the matter very readable.

The simple yet scientific principles of good workmanship and the highest sanitation enunciated by the author are written for the million, including all plumbers, but favoured is the one in a thousand who either by accident or expenditure is able to live in an environment of these principles materialised. SYDNEY B. BEALE.

NOTES, QUERIES, AND REPLIES.

Ancient Monuments Protection Bill.

From JOHN HEBB [*F.*]—

A bill has been prepared and brought in in the House of Commons by Lord Balcarres, M.P. for the Chorley division of North Lancashire, to amend the Ancient Monuments Protection Acts. The bill proposes to extend the provisions of Section 1 of the Ancient Monuments Protection (Ireland) Act 1892 to Great Britain. Power is proposed to be given to County Councils to purchase or preserve monuments, and to receive voluntary contributions for the maintenance of such monuments, which, when placed in charge of a County Council or the Commissioners of Works, are to be exempt from rates and taxes, and shall not be chargeable with estate duty or any other duty leviable on or with reference to death.

Ancient Gold and Ivory Work and the Ionic Capital.

From Mr. CLEMENT HEATON, Neuchâtel—

I am glad to see that Dr. Murray, in his Paper on "Excavations in Cyprus, 1896" (p. 21, *ante*), favours the idea that the gold reliefs from Cyprus were made by beating over wires. In order to clinch the matter I append a photograph (fig. 1) of a piece of silver beaten over a wire, giving precisely the effect of the illustration fig. 3, No. 4 (p. 28, *ante*). The upper parts, it will be seen, are slightly effaced, while the lower ones are in high relief over them—in both Dr. Murray's plate and in my photo. Again, in one corner a doubling of the line is perceptible, precisely like that shown in No. 1, fig. 3 (p. 28), due to the silver leaf moving slightly.

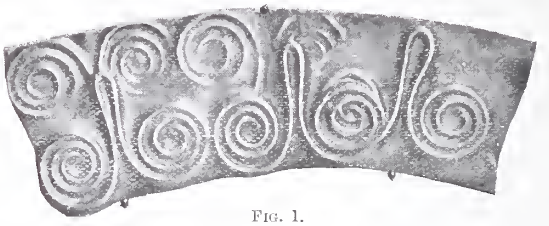
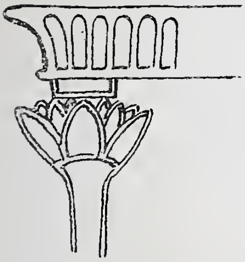


FIG. 1.

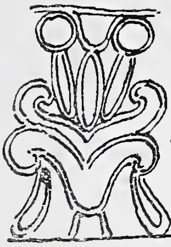
My attention was directed to this kind of work while looking up evidence for a lecture in March 1891 at the Society of Arts. I remember seeing samples of peasant jewelry from Sweden done in this way also. The specimens Nos. 10 to 12 (p. 29) were, I believe, beaten over carved work, but face uppermost, *i.e.* beaten *over* moulds, not *into* them. The Louvre Museum contains a number of examples of gold work made with bent wires, and also examples of *repoussé* gold work made by beating thin plates over such wires. It seems evident this was one of the most prominent ideas of ancient work in precious metals, and it is here I would look for the origin of many Greek forms of ornament common in decoration.

It suggested itself to me that the relief work in stone, in spiral lines and concave relief, was copied from the gold work, as one can see its origin quite clearly in the metal work, and cannot imagine why stone should be so *carved*. If so, does not early architecture owe something to goldsmiths' work in the way of decoration?

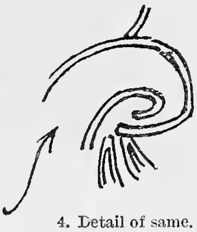
I note Mr. Myres suggested (p. 31) that the Ionic capital has its origin in metal work. Has the idea ever been worked out as to its being a copy of some kind of *cloisonné* inlay? Early times in the East were much under the influence of the *cloisonné* form of art, and I send a few sketches (figs. 2–11) from various sources which seem to show how the capital came into existence. It would be interesting to know if this can be finally substantiated, or whether it is an illusion.



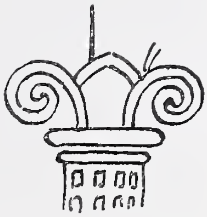
2. Capital in cloisonné Pectoral of Onsertesen II. Dahshour.



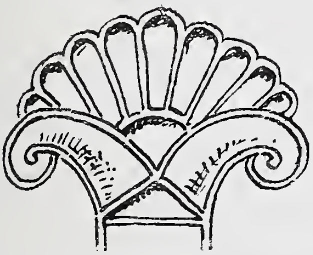
3. Flower ornament in gold cloisonné Bracelet in the Louvre Museum.



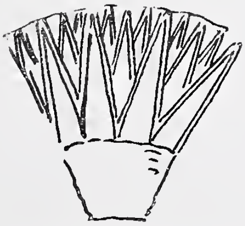
4. Detail of same.



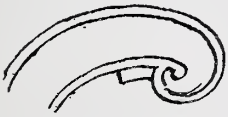
5. Capital, Tablet of Sippara.



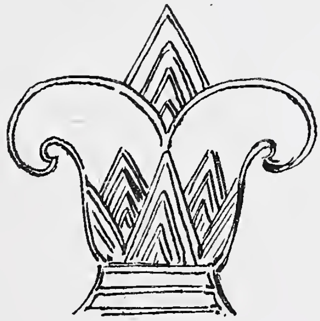
6. Ivory carving forming kind of cloisonné. N.W. Palace of Nimroud.



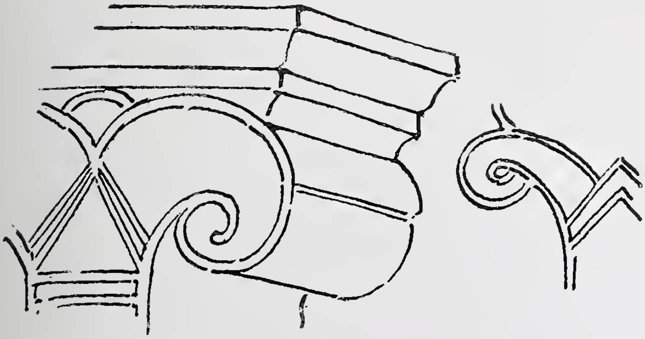
7. Bronze capital, about 6 inches high, from Tel-el-Yahoudeh. Now at British Museum. Blue cement colour still remains in parts between the cloisons.



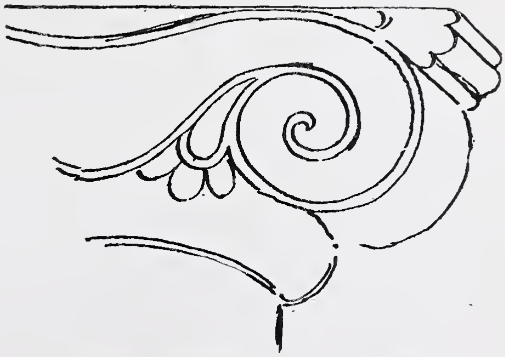
8. Part of a carved ivory formerly inlaid with colour. Nimroud.



9. Part of same ivory.



10. Two capitals given by Perrot and Chipiez (vol. iii. p. 116), showing the same endings of spiral lines as in the ivories, and the same triangular and horizontal openings. Note that the carved pavements from N. Palace at Kouyanyik still retain coloured cements in places, showing that stonework was inlaid with colour.



11. Very early Greek capital. Perrot and Chipiez, p. 264.

MINUTES. IX.

At a Special General Meeting, held Monday, 5th March 1900, at 8 p.m., Mr. W. M. Fawcett, M.A., *Vice-President*, in the Chair, with 13 Fellows (including 9 members of the Council) and 18 Associates (including 1 member of the Council), the Chairman having announced that the Meeting was convened for the election of the Royal Gold Medallist for the current year, moved, and it was thereupon unanimously

> Resolved, That, subject to Her Majesty's gracious sanction, the Royal Gold Medal for the promotion of Architecture be presented this year to Professor the Commendatore Rodolfo Lanciani, *Correspondant de l'Institut de France*, D.C.L. Oxon., Hon. Corresponding Member (Rome).

The Meeting then terminated.

At the Ninth General Meeting (Business) of the Session 1899–1900, held at the conclusion of the Meeting above minuted, Mr. W. M. Fawcett, M.A., *Vice-President*, in the Chair, with members present as above, the Minutes of the Meeting held 19th February [p. 180] were taken as read and signed as correct.

The decease was announced of the following members:—Alexander Kendall Mackinnon, recently placed on the list of *Retired Fellows*, and Eley Emlyn White, *Associate*.

Reference having been made to the death of Mr. William Butterfield, *Royal Gold Medallist* 1884, on the motion of the Chairman it was

> Resolved, That the Institute do record its regret at the death of Mr. William Butterfield, and that a letter of condolence be sent to his nephew, his nearest surviving relative.

The following Associate attending for the first time since his election was formally admitted and signed the Register: viz. Henry Tanner, jun.

The Hon. Secretary drew attention to a list of donations to the Library which would be issued with the next Journal, and a vote of thanks to the donors was ordered to be entered on the Minutes.

The following candidates for membership in the various classes were elected by show of hands, under By-law 9:—

As Fellows (3).

DAVID BARCLAY NIVEN [*A.* 1890].
WILLIAM EDWARD RILEY [*A.* 1883].
HERBERT HARDY WIGGLESWORTH [*A.* 1891].

As Associates (22).

FRANCIS HENRY ALLEN [*Probationer* 1895, *Student* 1897, *Qualified* 1899] (Kettering).
WILLIAM HENRY ANSELL [*Probationer* 1894, *Student* 1896, *Qualified* 1899].
SPENCER ELLWOOD BARROW [*Probationer* 1891, *Student* 1894, *Qualified* 1899] (Lancaster).
FRANCIS WILLIAM ASHTON-BUCKELL [*Probationer* 1892, *Student* 1898, *Qualified* 1899] (Arundel).
THOMAS JOSEPH BYRNE [*Probationer* 1897, *Student* 1898, *Qualified* 1899].
BESSIE ADA CHARLES [*Probationer* 1893, *Student* 1896, *Qualified* 1899].
DAVID McLEOD CRAIK [*Probationer* 1893, *Student* 1896, *Qualified* 1899].
ALFRED HERBERT FOSTER [*Probationer* 1896, *Student* 1897, *Qualified* 1899] (Brisbane).
FRANK FOSTER [*Qualified* 1899, *Special Examination*].
STANLEY HINGE HAMP [*Probationer* 1896, *Student* 1897, *Qualified* 1899].
JOHN HARRY WOODALL HICKTON [*Qualified* 1899] (Walsall).
MATHEW HONAN [*Probationer* 1896, *Student* 1897, *Qualified* 1899] (Liverpool).
HERBERT EDWARD ILLINGWORTH [*Probationer* 1893, *Student* 1895, *Qualified* 1899] (Leeds).
ALFRED RALPH KEIGHLEY [*Probationer* 1892, *Student* 1895, *Qualified* 1899] (Liverpool).
THOMAS ANDERSON MOODIE [*Probationer* 1890, *Student* 1895, *Qualified* 1899].
JAMES EDWARD COLEMAN SHIELD [*Probationer* 1892, *Student* 1895, *Qualified* 1899].
JOHN EDWARD SPAIN [*Probationer* 1895, *Student* 1898, *Qualified* 1899] (Wragby, Lincs.).
REGINALD HENRY SPALDING [*Probationer* 1894, *Student* 1897, *Qualified* 1899].
FREDERICK TAYLOR [*Qualified* 1899, *Special Examination*] (Aylesbury, Bucks).
RAMSAY TRAQUAIR [*Probationer* 1894, *Student* 1896, *Qualified* 1899].
THOMAS TYRWHITT [*Probationer* 1894, *Student* 1896, *Institute Medallist Drawings* 1898, *Qualified* 1899].
HAROLD WATTS [*Probationer* 1893, *Student* 1896, *Qualified* 1899] (Plymouth).

As Honorary Fellow.

The Right Hon. Sir RICHARD TEMPLE, Bart., G.C.S.I., C.I.E., D.C.L., LL.D., F.R.S.

The Chairman announced that Mr. Edward Augustus Ould, President of the Liverpool Architectural Society, had been elected a Fellow at a Meeting of the Council held that afternoon.

The Business Meeting then terminated.

At a further Special General Meeting held the same evening, following the Meetings above mentioned, Mr. W. M. Fawcett, M.A., *Vice-President*, in the Chair, and members present as at the preceding Meetings, the Chairman announced that the Meeting was called to sanction changes recommended by the Council to be made in By-laws 25, 29, 30.

The object of the changes having been explained, the adoption of the first recommendation was moved by the Chairman and seconded by Mr. John Slater, B.A. [*F.*], and it was

> Resolved, That in By-law 25 the words "thirty-six" in the first line be altered to "thirty-eight," and that the word "two" in the second line of section (*a*) be altered to "four."

The adoption of the second recommendation having been moved by the Chairman and seconded by Mr. Hugh Stannus [*F.*], it was

> Resolved, That in By-law 29 the second sentence be altered so as to read, "Any Associate shall be eligible to serve as an Associate-Member of Council."

The adoption of the third recommendation having been moved by the Chairman and seconded by Mr. Edwin T. Hall [*F.*], Mr. William Woodward [*A.*] moved as an amendment the substitution of the word "nine" for "six" in the first portion of the recommendation. The amendment having been voted on was lost, whereupon the original motion was put, and it was

> Resolved, That in By-law 30 the word "three" in the seventh line be altered to "six"; and further that the words "but the names of members of the existing Council shall be distinguished by an asterisk" be omitted from the same By-law.

A proposal by Mr. Woodward that the number of years members had served on the Council should be placed against their names on the balloting papers was withdrawn.

Mr. Owen Fleming [*A.*], on behalf of the Associates, having thanked the Council for the concessions accorded Associates by the resolutions above recorded, the proceedings closed, and the Meeting separated at 9 p.m.

REFORM IN THE LAW OF ANCIENT LIGHTS.

By J. Fletcher Moulton, Q.C., M.P., F.R.S. [*H.A.*]; J. Douglass Mathews [*F.*], and Beresford Pite [*F.*].

Read before the Royal Institute of British Architects, Monday, 19th March 1900.

I. By J. Fletcher Moulton, Q.C., &c.

It is by a somewhat curious historical connection that the rights of light and air have come in law phrase to be so closely connected as they are at the present time. The rights are in themselves very distinct, and little gain either in breadth of view or clearness of definition is secured by treating them together. Both light and air are necessaries of life, and both are enjoyed in common by all the world. But there the analogy ceases, and in other and more immediately important particulars the two subject-matters, and the legal questions to which their appropriation for the purposes of human enjoyment gives rise, are strikingly in contrast. Thus light is an immaterial thing, which is absolutely consumed and wholly destroyed in use. No question can arise concerning the disposal of its residuum after use, because it leaves no residuum. The only questions which ever arise with respect to it are questions of free or restricted access. Air, on the other hand, is a fluid body which is corrupted but not physically destroyed in use, and questions touching it are at the present time much more often questions arising out of the disposal of the corrupt residuum or of noxious additions than about the access of the natural air itself.

Nor are the strictly legal aspects of the two subjects less divergent than their physical aspects. In olden times, when wind-mills afforded a widely-used instrumentality for preparing flour, the access of an uninterrupted breeze to the mill was a matter nearly affecting the miller's proprietary interests, and one which raised questions in all respects like those which now arise concerning access of light. But the decay in our country and in our own times of the mechanical industries which depend upon the wind for motive power has relegated this branch of the law concerning the enjoyment of air to a subordinate place; and, on the other hand, the increase of knowledge concerning the important bearing of proper ventilation on the well-being of populous districts has given a significance formerly quite unsuspected to the proper diffusion of air as distinguished from air currents. Now the still, diffusing air is common property in which no private rights grow up, and hence the law relating to the air tends continually more and more to crystallise into regulations having public health as their object—although the recent case of *Aldin* v. *Clark* shows that the rule is not without exceptions—while the law relating to light remains undisturbed upon the foundations of private right, upon which, as a matter of history, it has been slowly and gradually built up by the industry of jurists and litigants rather than by that of Parliament.

These considerations are not simply of theoretical interest. The effects of the discrepancy here pointed out have been clearly discerned, and their bearing upon the practical work of litigation has been pointed out by that very great lawyer, the late Lord Selborne. He said, in giving judgment in a well-known case:—

> "I observe that a formula has crept into the pleadings in cases of this description, and, as the Lord Justice has said, has passed from the pleadings into the evidence, in which air is coupled with light. Now the nature of the case which would have to be made for an injunction by reason of the obstruction of air is *toto cœlo* different from the case which has to be made for an injunction in respect of light. It is only in very rare and special cases, involving danger to health, or at least something very nearly approaching it, that the Court would be justified in interfering on the ground of diminution of air. Therefore, when witnesses say that there is a material diminution of light and air, and say no more, they are in truth reducing the value of their evidence as to light to the standard which must be applied to their evidence as to air, as to which such evidence is of no value whatever."

It is not a little remarkable that the Lord Chancellor in this *dictum* should have wholly passed over the use of air as motive power, which was the ground upon which one of the earliest applications recorded in our law books was made to a court of law for relief in aid of the plaintiff's right to the enjoyment of air. But the omission is easily understood in view of what has been already pointed out with respect to the comparative insignificance at the present time of the wind considered as motive power, or in any other way the subject of private property. That such will continue to be the case it would be very rash to assume, and it may be that, with the progress of invention in the near or distant future, the air may come to have again the same kind of importance in respect of industrial undertakings which it had in the times of James I. If that should happen, the right to access of the breezes may come once more into prominence, and our Courts may then be called upon to develop a new body of law out of a number of precedents which at the present time are among the mustiest of the many musty records in our law reports. Your Institute, however, has a very practical end in view in embarking upon an examination of the law, and adopting measures for its improvement. The considerations to which I have just drawn attention will probably satisfy you that this practical end can best be compassed by separating the law of light entirely from the law of air, and dealing exclusively with the former subject. The nature and effect of private rights to light we understand, and the question of law reform in this respect is one of immediate and pressing importance. We cannot be said at the present time to be in the same position with regard to air. The time, therefore, is not at all propitious for legislating about private rights to air, and the suggestion which I shall venture to put in the fore-front of my address to you is that in any Bill which you may tender to the Legislature you should carefully distinguish between rights to light and air, and limit your proposals to the former subject.

Upon the nature of the right possessed by the owner of ancient lights I do not propose to address you. Your professional studies have made you perfectly familiar with it. I am desirous only to further the practical ends which you have in view, by putting before you in the compass of a short Paper as full a statement as possible of the principal practical reforms which occur to me as called for by the existing state of the law.

In the first place, it seems very desirable to express in a clear and available formula what is the measure of an owner's right in respect of ancient lights. The language of the existing enactment does indeed seem quite clear upon this point. The words of the Prescription Act are: "When the access and use of light to and for any dwelling-house, workshop, or other building shall have been actually enjoyed therewith for the full period of twenty years without interruption, the right thereto shall be deemed absolute and indefeasible," subject to the well-known exception of the case in which the enjoyment has been sanctioned by the consent of the owner of the servient tenement. These words point distinctly to the right of the dominant tenement being a right to enjoy in future exactly what is shown to have been enjoyed in the past, neither more nor less. And the clause has been so interpreted by Judges of the highest authority, and in accordance with this interpretation it has at times been laid down in the most distinct and peremptory language that the extent of the right does not at all depend upon the extent or nature of the use made of it by the owner. Thus Lord Cranworth says:—

> "The right conferred or recognised by the statute is an absolute indefeasible right to the enjoyment of the light without reference to the purpose for which it has been used. Therefore, even if the evidence satisfied me—as it does not—that for the purpose of their present business a strong light is not necessary, and that the plaintiffs will still have sufficient light remaining, I should not think the defendant had established his defence unless he had shown that, for whatever purpose the plaintiffs might wish to employ the light, there would be no material interference with it."

To this proposition Sir George Jessel, when Master of the Rolls, gave his personal adhesion with much emphasis, and pointed out that the principle itself, that rights of this class depend for their extent upon their character, not upon the use actually made of them, was very ancient in our law, having the authority of a case reported by Sir Edward Coke. It is therefore clear upon these authorities that in order to ascertain the light to a continuance of which the owner is entitled, you have only to ascertain the light actually enjoyed during the twenty years' term. Nothing could be simpler or more definite than this rule. But such a rule, if carried out to the letter, would be too oppressive. It has therefore been in practice modified in innumerable cases in a way which originally no doubt was suggested by another rule equally well established, viz. that the law takes no account of trivial grievances. Acting under cover of this doctrine, that the law does not heed trifling invasions of right, the Courts have in practice treated plaintiffs as though they were only entitled to a reasonable enjoyment of light, no matter how complete their enjoyment in fact had been; and this question of reasonable enjoyment of light has shown a tendency to crystallise into a rule that reasonable requirements are satisfied if the owner of the privileged windows gets an uninterrupted view of 45° of sky from the zenith. The suggestion in this form has indeed been put aside by the Court, but still not in such a peremptory manner as to rule it altogether out of order; and thus the question whether the encroachment is to be restrained is a very real and possibly troublesome question even in a case where considerable encroachment may have been actually made. Although the Courts nominally accept the dictum that the right is to the light as previously enjoyed, the existence of decisions upon the principle of 45° of uninterrupted light being adequate show that they do not consistently act upon it. In fact, the two principles are wholly irreconcilable: if reasonableness decides it, history does not measure the right; if history decides it, reasonableness is no matter. Thus, if the decision in *Theed* v. *Debenham* is right, the angle of 45° has nothing to do with the controversy. But our Courts are often practical at the cost of logical consistency, and their behaviour in this respect shows that they have realised the fact that the absolute rule that existing rights shall not be interfered with is too drastic to be adhered to under the needs of a rapidly-increasing town population.

There is another legal pitfall which may be appropriately mentioned here, since it also lends importance to the suggestion that the right itself is susceptible of a more successful definition than it has yet received. That right is one which may be enforced either by a common law action for damages or by a proceeding in Chancery for an injunction to restrain the wrongful act. But it is the rule of Chancery to have regard in certain cases to the convenience of both parties to the litigation when granting an injunction, and on this principle it has been held that when the mischief is done the Court may, if it considers that course more convenient on the whole, give damages instead of ordering the offending building to be removed. And Vice-Chancellor Page Wood seems to have considered that where a plaintiff could be compensated by an award of damages to the extent of £20, it would be improper for the Court of Equity to interfere by injunction at all. For this purpose, therefore, when, as usually is the case, an injunction is sought, it is necessary to show material injury in order to put the action on its feet at all.

In curious contrast with this last-mentioned rule is a technical rule that when the action is brought to restrain a threatened injury, not to redress an injury actually committed, the Court of Chancery must act by injunction or not at all, for in such a case the alternative power of giving damages does not exist. The whole result is that, although resting upon very simple principles, the law of this matter is curiously involved and intricate. Different considerations apply, and the wrongful act changes its complexion according as one or other of the two remedies given by law for this mischief comes under consideration; and yet in many cases, but not in all, these remedies are alternatives which may be adopted the one or the other at the discretion not of the litigant but of the Court. The remedies are not in all cases alternative to one another, for where the damage is substantial it has been held that you cannot force a plaintiff to accept damages when the wrong is not completely done, but is only a threatened wrong. In that case, if the plaintiff comes immediately for relief, he must obtain it in the form of an injunction.

This is manifestly a case in which the law stands in need of being simplified and rendered more coherent, and yet this can hardly be done by a few words in an Act of Parliament. No mere verbal amendment of existing enactments will suffice. It is not an improved verbal definition that is required, but an improved way of applying the existing definition to the fact, and an improved method of arriving at the facts themselves, and a greater latitude in the choice of remedies.

The difficulty with regard to ancient lights arises from the fact that in the last sixty or seventy years there has been a great change in our national mode of living, in the direction of the accumulation of large populations in towns. This has made the strict rights of light given by the Prescription Act very onerous and often very injurious to the proper development of our towns. Many of you will have had instances in your professional experience in which windows of insignificant size and little importance to the owner have, by reason of their possessing the rights of ancient lights, enabled him to exercise a veto on large and important building plans. It need not be a case in which the erection of the buildings would seriously damage him or deprive him of reasonably sufficient light for the purposes to which such a window could be used. His light must not be interfered with, however great the inconvenience to his neighbour, and however little the injury to him, if it be more than infinitesimal. Too often such a state of things leads to what is nothing less than levying blackmail on the building owner. He must pay what is demanded or abandon his scheme.

If, however, the matter is in the hands of honest and reasonable men, a solution is generally found which is fair to all parties. The owner of the servient tenement takes care that he damages as little as may be, and the owner of the dominant tenement agrees to accept compensation for what is unavoidable. But for this the burden of our law as to light would long ago have been too grievous to be borne. It is those cases in which the owner of the dominant tenement insists upon his strict rights at the cost of inflicting on his neighbour inconvenience, without any corresponding advantage to himself, which render desirable a change in the law.

Such problems have occurred in connection with other kinds of property than rights of light. Private property in land was absolute in olden times, but when railways came to be made it was seen that the community could not allow an individual to hold at his mercy projected works of great public advantage merely because their execution required land owned by him. It solved the difficulty in a very practical way, which amounted to saying that if he would not act reasonably he would be required to sell his land at the price that a reasonable man would take for it. In other words, the Legislature by statute obliged the recalcitrant owner to do that which an honest and reasonable man would do of himself—viz. part with his rights at a fair valuation without taking advantage of the needs of those who required the land for the purposes of the intended works.

It is my opinion that the only method of satisfactorily solving the difficulties arising from rights of light will be to follow a similar principle. It is true that in the case of the compulsory acquisition of land Parliamentary sanction is to be obtained; but this is far too cumbersome and expensive a remedy to be applicable in the case of ancient lights. The remedy must be capable of being applied without the cumbersome machinery of special legislation; and I think that this can be done without injustice to the individual by empowering our Courts, when they have to deal with rights of this kind, to imitate in their remedies the conduct which honest and reasonable men would exercise in their own affairs. I have pointed out that in such cases I would consider how the ends might be obtained with least inconvenience. Next, they would consider the question whether the compensation for that inconvenience, which the one would justly require, would be greater than the other could profitably bear, and the solution arrived at would depend upon the answer to this question. I see no reason why, in case of controversy, our Courts, especially if strengthened for the purpose by technical assistance, could not solve difficulties in a similar manner.

To effect this end, you must put an end to any technical rule that prevents damages being given for an injury of this kind, whether actual or threatened. In my opinion, you would run no risk of doing mischief if you conferred upon the High Court the fullest discretionary power, in every case where an injunction to restrain the darkening of ancient lights can be granted, to substitute for the injunction a money payment by way of damages. This might be done if necessary in substitution of a part only of the relief granted, so that, if the merits of the case demanded it, the Court might authorise a definite encroachment upon equitable terms, while at the same time restraining some further threatened encroachment by an injunction.

A case of this sort can easily be imagined. An important building may be in contemplation which, overtopping the building that formerly occupied the same site, must of necessity darken ancient lights. It may be perfectly unreasonable to prevent the carrying out of the building scheme, and yet perfectly reasonable to say that a certain chimney stack, for example, which aggravates the nuisance, ought to be accommodated elsewhere. On the principles I advocate, the Courts, in a matter of such practical importance, should be able to avail themselves to the full of the remedies by which sensible men in practice mitigate the difficulties of conflicting rights and interests. In such a case as the one I have described an element of the settlement in a case by compromise would probably be in practice an arrangement that white tiles, for example, should be used to minimise the loss of light. I see no objection upon any ground of legal principle why the Court should not be free to consider such proposals and deal with such a case in the following manner: Issue an injunction to restrain the building of the chimney-stack; award damages in respect of the remaining encroachment; allow by way of abatement from the damages such sum as may fairly represent ameliorations brought about by the use of reflecting bricks, tiles, or the like, tending to minimise the inconvenience, upon a proper undertaking to maintain the white bricks in the form of a contract binding on the land.

It is evident that it would be advisable to strengthen the Courts by technical assistance in cases of this kind, but this is not a proceeding strange to our existing judicial system. For example, in the Admiralty Court the Trinity Masters sit in order to give the guidance which their practical acquaintance with seamanship enables them to give to the Judge. An architect-assessor sitting with the Judge would be amply sufficient to enable the Judge to deal with questions of this kind. I do not for a moment suggest that it should be an object of the Court to suggest to the litigants the various modifications or ameliorations which should be adopted in order to minimise inconvenience. It would be for the litigant to propose these, and for the Judge, aided by his assessor, to decide whether they brought the case into the category of those in which a great balance of convenience would be gained by authorising a modification of the strict rights of light of one of the parties, giving him full and fair compensation for any loss caused to him thereby. And there is one reason why I think that it is essential in legislation of this kind to have the technical element present to assist the Court. A Judge has naturally a tendency to lean to those remedies which are purely matters of law, on which he is an expert, rather than to those which combine principles of law with practical questions. He feels himself less a master of the practical considerations than of the legal ones. It is to this that we must attribute the comparative failure in practice of Lord Cairns's Act, which I think was intended to initiate the system of freely dealing with matters of this kind by way of damages rather than of injunction. The timidity of Judges in adopting a remedy which did not follow the lines of the strict rights of the parties caused this useful legislation to be applied only to cases where the damage was all but infinitesimal. A technical assessor, however, would enable the Court to feel itself possessed of the requisite practical experience, and would, I am sure, lead to a much bolder and wider adoption of the new remedies.

Before I conclude I must deal with the question of the acquisition of rights of light; and this point comes in appositely at this moment, because I think that the Court might with great advantage impose as one of the terms upon which a building was permitted that the windows thus erected should not acquire rights of light against the other litigant's property, or should only acquire them in a modified degree. This would enable the Court to avoid the occurrence of what is often a great injustice—namely, that when buildings are erected the surrounding property may in process of time become servient to rights of light acquired to them without the owner of that property being in any way able to prevent it. For instance, a building with a small and insignificant window may be by rebuilding changed into a large building with many windows, none of which can, in practice, be blocked up without interfering with the ancient lights derived from the original window. In process of time these become ancient lights, and thus extend the servitude of the surrounding property. This is, to my mind, a great injustice, and it arises from the fact that the actual enjoyment of light is considered to be due to the acquiescence of the owners of the surrounding land, whereas it may be that they have never acquiesced at all, but have simply been unable to prevent it. And even when they are able to stop the acquisition of rights of light it is only with the barbarous method of blocking out the light with an unsightly and inconvenient erection which does no good to any human being, and necessarily destroys, and is intended to destroy, comfort which might otherwise be enjoyed. I see no reason why we should adhere to such barbarous methods. I would substitute for them a notice which might be given by the owner of any land to the owner of windows, which would otherwise acquire rights of light over the land and limit his power of utilising it. But such notices should not be private matters requiring proof by evidence, otherwise they would lead to needless litigation as to what passed many years before. They should be of no effect unless duly entered in registers kept for the purpose and accessible to the public. In this way much of the difficulty with regard to rights of light would be removed, for people would not so strongly object to their neighbours developing their property by building if they knew they would not by so doing hinder them in turn from developing their property in a similar way.

I have pointed out very shortly the lines in which I think legislation should go in order to diminish the inconvenience arising from the existing rules as to rights of light. The matter may be briefly expressed as follows:—

The Court ought to be fully empowered to consider each case on its merits, and to decide according to the balance of general convenience whether interference with existing rights of light should be prevented or should be permitted, and on what terms. Those terms should be based on the consideration of what honest and reasonable men with practical knowledge would arrive at as a proper solution if the case were to be settled outside the Courts instead of inside, and in all cases the owner of rights must receive fair and adequate compensation for any modification of his rights to which he is required to assent.

II. By J. Douglass Mathews [*F.*].

AFTER the valuable Paper by the learned and eminent Queen's Counsel which we have just heard it would ill become me if I said a word on the legal aspect of the subject before us, and I shall therefore confine my remarks to the difficulties which most architects, and especially those practising in London and large towns, have to experience in erecting or altering a building dominated by ancient lights, and the unsatisfactory methods now adopted to settle differences, with an endeavour to further a scheme which would be more simple, expeditious, and economical than the present cumbersome machinery.

When a client consults an architect he expects him to advise not only on the general design of a building but also upon the possibility of its being carried out, which includes not only construction but also compliance with rules and regulations applying to buildings and other matters which an architect ought to know. With proper education and experience there should be no great difficulty in this, and in the ordinary way the work is carried out in accordance with the original design. If, however, the building is to be erected in a city or large town, in addition to the foregoing requirements he must take care to so design his building as not *materially* to interfere with rights possessed by neighbouring persons in respect of light and air.

I emphasise the word *materially*, as upon it depends most of the difficulties that architects have to encounter, and, having a wide meaning, it is not surprising that differences of opinion should arise between the architect and the possessor of an ancient light. If certain simple rules could be laid down, such as that no erection take place above a line drawn at an angle of forty-five degrees from the horizon from the sill of an existing window, or within certain angles laterally, or other methods which have from time to time been advocated, there would be no greater difficulty in complying with them than with Building Acts or sanitary by-laws. But the law as to ancient lights is not so codified, and therefore there is much room for uncertainty.

An architect may have made himself acquainted with all the leading cases and decisions affecting ancient lights, and may do his utmost to keep his client free from litigation, yet he may find himself out of his reckoning by some slight interference to a window to which he attached little importance, but which might prove to be of great value to its possessor, and so bring about a lawsuit and possibly a curtailment of, or alteration in, the new building should the opinion of the Judge be adverse to that of the architect. A great deal depends upon the dispositions and tempers of the owners of dominant lights. If they should prove reasonable, a building might be carried out without difficulties arising, whereas if the reverse were the case troubles of all kinds might ensue. Thus a building might be erected in one place, whereas in another, the circumstances being all identically the same, it might have to be materially reduced in height and accommodation. For the purposes of illustration I will assume a building is to be erected on a site environed by ancient lights, and the architect, having carefully studied their position in relation to his building, has done what he could to prevent material damage to them.

As soon as building operations are commenced he is deluged with letters and notices threatening proceedings in case of interference with ancient lights. He makes it his business to interview the possessors of these windows, and it is not unlikely that he will hear such remarks as the following:—

A thinks his light may be somewhat interfered with, but, as he does not wish to be unneighbourly, will not prevent his friend from utilising his property to the best advantage.

B, although there may be some interference in one direction, it is compensated for by additional light in another, and therefore he will be satisfied with the exchange.

C does not like the proposed new building, but yet if his windows are enlarged and the new buildings faced with white glazed bricks, and other improvements made, he will be content.

D has no doubt that what is proposed will diminish his light, but, as he intends rebuilding, he will not object, on the condition that he is allowed to carry his building to a height equal to the new one.

E has no desire to be unfriendly, and all he asks for is that no interference may take place in the light he has previously had.

F is fully determined that if the new building is carried one inch higher than the original one he will apply for an injunction.

G is not going into the question of material damage, but does not see why the owner of the new building should have any advantage over him, and therefore, if he wants anything he must pay handsomely for it, or otherwise he will see what the law can do for him.

H, that his business is one which requires an exceptional light, and that was the reason of his taking his premises, and any interruption would ruin his premises, as he is bound to be in the particular locality.

Now what takes place? First, arrangements have to be made with those who are willing to come to terms. This generally takes some time, and heavy fees have to be paid. One of the other objectors at once instructs his solicitor to obtain the best evidence he can on his behalf. Surveyors are called in to make measurements; elaborate drawings are prepared, reports made and affidavits sworn, eminent counsel briefed, and the case taken into court. It is very probable that on some technical point an adjournment takes place, and possibly eventually the case is settled out of court, either by compensation or by the alteration of the building.

When the work is progressing it is not unlikely that the objector, who is determined to make something out of the job, after trying to extort an exorbitant sum, fails in his attempt, and in due course he applies for and obtains an interim injunction, but before the case is argued withdraws his action on payment of his full costs. The difficulties may even then not be over. The plausible neighbour who desires to have what he formerly had has been waiting until the building is erected and the scaffold removed, in order that he may see whether such is the case, and is now of opinion that his light has been interfered with. Having previously taken care to give an admonitory notice, he now proceeds to apply for a mandatory injunction, and if he is successful the building must be altered as directed by the Court. This, of course, is a serious and expensive matter both in time and money, and it not unfrequently happens that instead of altering the building heavy compensation is paid, together with correspondingly high costs.

I will take another case. It is not an unknown occurrence for a building owner, finding himself hampered by ancient lights, to determine to run all risks. He therefore makes it known that he is prepared to spend any amount of money in law, and that he will fight every claim, and, moreover, that if his buildings are stopped by law proceedings, in case of failure his opponents will have to pay heavy damages and expenses. This course of procedure will act as a deterrent to timid and nervous persons, and also to those (and perhaps they are the greatest sufferers) who cannot spare either the time or the money to fight a lawsuit. Other owners with unquestionable rights have to incur the costs of a heavily fought case, which under the most favourable circumstances will amount to a considerable sum out of their own pockets, in order to maintain their rights. Thus by this high-handed proceeding those who insist upon their rights are put to much inconvenience and expense, whilst others have to sacrifice what unquestionably belongs to them.

There is yet another side. A building owner without any previous warning finds his building suddenly stopped at a critical stage by an interim injunction; and if this happens in the Long Vacation it is not uncommon for an arrangement to be entered into that if at the trial an interference with light is proved the building has to be taken down, and in many cases this has been carried out with almost ruinous expenses.

The Prescription Act, 2 & 3 William IV. c. 71, enacts that where the access of light to any buildings shall have been actually enjoyed for twenty years without interruption, the right thereto shall be deemed absolute and indefeasible. The advantages thus conferred are valuable, and in some cases the light is of vital importance to the possessor for the proper carrying on of his business. The law may be clear, though not so its interpretation, and therefore every case has to be considered on its merits. My experience is that there is scarcely a case that is exactly a counterpart of a decided one. It is, therefore, eventually necessary to have to apply for a decision to one of Her Majesty's Judges, and there is probably no subject that comes before him which is more ambiguous and unsatisfactory, on account of the direct contradictory assertions made by both sides of facts and opinions, for which I am bound to say that architects and surveyors are to a great extent responsible. The system at present adopted tends to mystify and to worry the Judge. Long affidavits and counter-affidavits have to be waded through and compared with drawings often made to a very large scale on separate sheets of tracing cloth, which, when being referred to, occupy a considerable space on both Judge's and counsel's desks. Possibly still further inconvenience is caused by the presence of a large model, which is brought in by workmen and put together in Court and lodged in some inconvenient place. A quarter of an hour, it may be, is consumed in doing all this, generally with little advantage, as most people know that in looking down upon a model it cannot convey a correct idea of the building and its surroundings. Counsel also, and that too with the best desire to assist the Judge, sometimes still further fog him. And yet amidst all this he is expected to make himself as well acquainted with all the circumstances as if he had himself viewed the site, and could appreciate the fine distinctions that the surveyors had arrived at after minute study. Added to this he has to hear counsel's arguments and precedents and contentions as to whether this case is on all fours with some reported one. All this possibly does not occupy more than two or three hours.

With all these difficulties is it surprising that decisions are not so clear as to interpret the law definitely, so that an architect may not be uncertain as to what he may or may not do in designing his building? If, instead of the usual proceedings, both parties were to agree upon the facts, and then to state a case to the Judge, as is sometimes done, it would in most instances be easy for him to arrive at a decision, and that too at a saving of both time and much money.

I have now endeavoured to show that the application of the present law is fraught with difficulties and uncertainties, and that its interpretation is so expensive and dilatory that rights are oftentimes surrendered which ought to have been maintained. As matters now stand an unscrupulous person has an opportunity of preventing his neighbours from using his property to the best advantage, except by payment of some compensation (oftentimes blackmail), and the law affords us no means otherwise than by mutual agreement to alter old lights in a way that may be beneficial alike to the owner of the dominant light and to the person erecting his new building.

Nearly seventy years have passed since the Prescription Act became law, during which time great changes have taken place in building. Many villages have become towns, many small towns have become large cities, and many cities have ceased to be places of residence, and are now centres of trade and business, so that that which was a reasonable law then has become an arbitrary one now, and interferes with the fair use of valuable property. It is not then unreasonable to ask that this may have the consideration of our legislators, and that an alteration in the present law may be made or a new Act passed. In such an Act, whilst carefully guarding the rights of ancient lights, which are in many cases of incalculable value to their possessors, I would submit that they should be treated more in the nature of easements, and, provided that an equivalent is given, that the particular merits of the case may be taken into account rather than the hard-and-fast rules of law.

Now can anything be done to lessen the present evils and to simplify the mode of procedure in dealing with ancient lights, a question that must arise from time to time in crowded cities and towns?

This matter has for a considerable time occupied the attention of the Institute. So long ago as 1881 Professor Roger Smith opened a discussion on the rights of ancient lights, and made several valuable suggestions with a view to make the law more clear, and proposed a resolution "requesting the Council to enquire into the question of the Law of Light and Air as it affects buildings, and to make such practical suggestions with respect thereto as may seem expedient," which was carried.

A Committee appears to have been formed, and the opinions of many members, both lawyers and architects, were sought and obtained, and a very interesting digest was prepared by Mr. Smith and published in the PROCEEDINGS for March 1888. The work of this Committee was handed over to the Science Standing Committee, and the general feeling was that a simpler method of dealing with interference with lights than at present exists called for immediate attention. Professor Roger Smith and the writer of this Paper prepared certain proposals which, after much deliberation by the Committee, were embodied in a report to the Council in May 1890. Nothing was heard of this report until it was presented to the members by Mr. Lewis Angell, the Chairman of the Science Committee, in February 1893, in practically the same form as it was sent to the Council. This seems to suggest either that that body had not dealt with it, or else were so satisfied that they desired the Committee to bring it before the members, or I would rather say that by a free discussion on the report they might be aided in taking steps to obtain an alteration in the law. I will not trouble you with the report in detail, but it would be well that it be printed as an appendix to the Papers read this evening [see p. 231].

The outline, however, is as follows: That before the erection of a new building, or alterations to an old one, any owner or occupier who may consider his ancient lights likely to be interfered with may inspect the drawings and obtain all particulars as to what is proposed. That if any such owner or occupier considers his rights will be injured he shall give notice of objections to the building owner, together with the name of a surveyor who will act on his behalf. That on receipt of such notice the building owner shall nominate his surveyor, and that such two surveyors shall meet within seven days, and in case of disagreement shall refer all matters in dispute to an umpire, who shall make an award and shall determine all or any of the following: viz. the right to carry out the intended works; the alteration, if any, necessary to be made to prevent or lessen obstructions; the amount, if any, of compensation to be made; the alterations or improvements to adjoining premises by light-reflecting surface or other means; the amount of costs to be paid by either party, and generally all matters required to arrive at a settlement.

That in case of failure in appointing an umpire the President of the Royal Institute of British Architects shall appoint one.

That in case of either party refusing to accept the award an appeal may be made to a tribunal composed of experts (architects, surveyors, and barristers), who shall decide whether the award is sound and equitable, and shall modify it if necessary. They shall also have full power to determine the way in which the new building or alterations shall be carried out. In the case, however, of compensation being awarded and the amount not meeting with the approval of either party an appeal may be made to the High Court, except in cases where the sum awarded does not exceed £20, and provided that the party appealing shall give a proper undertaking to pay the costs and expenses.

That after the passing of the Act any owner not at the time servient to some neighbouring tenement which in time would obtain dominant rights may advertise the same in the daily papers, and that such notice shall have the same effect as though an interruption had been submitted to for one year immediately previous to the date of the service of such notice.

That no building after a certain date shall acquire the right of light over neighbouring property.

In the discussion which followed the reading of the report differences of opinion were expressed in reference to the two last clauses, which deal with the termination of the rights of ancient lights, and upon this subject doubtless my friend Mr. Beresford Pite will soon address you. There were also many matters of detail touched upon, and in the end the principle of the report was generally approved, but it was referred back to the Science Committee for reconsideration of the details. This appears to have been done, as a report presented to the Council is printed in the JOURNAL of March 1894, which recommends that the Council should ask the London County Council to include in the Building Act Amendment Bill clauses dealing with the question of light and air, which include a notice to be given to owners of adjacent properties by the building owner before increasing the height of the former buildings, and that drawings should accompany the notice showing the proposals for the new buildings, and in the notice the name of the surveyor should be included. Other clauses deal with the settlement by the same method as that provided in the Act relating to party walls. In case either party refuses to accept the award made by two of the three surveyors an appeal may be made within a month to one of the official referees, who shall sit with a professional assessor to be appointed by the President of the Local Government Board or the Home Secretary, unless both parties agree on an assessor within seven days. The decision of the official referee shall be final, the costs to be in his discretion. It also includes the clauses in the former report preventing any rights accruing in future.

Whether or not this was laid before the County Council I do not know,* but at any rate no such clauses are to be found in the London Building Act 1894. I venture to think that the suggestions would not have been found to work well, as the method of settlement by two or three surveyors would not adapt itself to matters where the differences of opinion are generally so great that it would be almost impossible for two of the surveyors to agree. The matters at issue would be of too much importance to leave in the hands of an official referee without power of appeal. Moreover any alteration in the law must apply to the whole country, and not be confined to any city or town which might desire a certain procedure.

No further action appears since this report was presented, and I trust that by requesting the Practice Committee to occupy the attention of the members this evening the Council intend to take speedy action with a view to the amendment of the law.

From a perusal of the many suggestions made in the before-mentioned reports and discussions I am of opinion that the reports presented by the Science Committee in 1893 will be found practicable with certain alterations and conditions, one of which should be that before a building is taken down or any alteration is made in an old one it must be measured, and plans, elevations, and sections drawn, which should be verified and certified by the district surveyor in London, or by the borough or other public surveyor elsewhere; and that such drawings should be available for inspection by interested parties on payment of a small fee. By this means no doubts would arise as to the extent and height of the original building.

In the event of an Act of Parliament being obtained in the terms before mentioned the following advantages would be ensured:—

1. Reliable facts as to the former buildings would be ascertained and tabulated.
2. The building owner would of necessity have to make known his intentions, so that interested persons could ascertain if their rights would be interfered with.
3. By the employment of an architect or surveyor appointed by each party the facts could be calmly discussed, and by this means one half the differences would be settled.
4. When, however, such were not the case, the umpire, after hearing both sides and having viewed the premises, would form his own opinion, and when his award was delivered it would undoubtedly be carefully considered before further steps were taken by either side.
5. The appeal to a tribunal of recognised experts, composed of not less than three

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* In the annual report of the Science Committee for 1894 it is stated that a copy of the Report on Light and Air was forwarded to the London County Council on the 27th March 1894.—ED.

persons, would afford an opportunity of hearing evidence assisted by counsel, the procedure being similar to that of an action in the High Court of Justice.

6. The tribunal having all facts before them, as also the opportunity of viewing the premises, their decision in all matters of dispute should be regarded as final, but with one important exception, however, viz. that the discontented party should still have the right of an action in the High Court for damages, if he considers that he has suffered loss either of his rights or amount of the compensation by the action of the tribunal of appeal.

The advantages above claimed would, I submit, be (1) expedition in the settlement of differences; (2) great saving in expense; (3) fairness and equity to dominant and servient owners alike, and (4) abolishment of the risks and expenses incurred in stopping the progress of works, and in altering or pulling down buildings when erected.

If these suggestions should find favour with this Meeting I hope that the Council will endeavour to obtain an alteration in the law, and as the subject has occupied the attention of the Institute for nearly twenty years, and the opinions of members at that time were much the same as those of present members, nothing can be gained by further delay.

As the Surveyors' Institution is as much interested in the subject as this Institute the co-operation of that body should be requested, so that steps may be taken to draft a Bill.

I thank you for the attention you have given to these remarks, and hope that the difficulties and anxieties which architects and their clients now suffer may ere long be reduced if not dispelled.

III. By Beresford Pite [*F.*].

I PROPOSE to consider—First, the existing statutory restrictions on the height of buildings. Secondly, the private restriction for the protection of prescriptive rights of light. Thirdly, the exceptions and waivers to this private right of restriction. Fourthly, alternative suggestions for Statutory Reform, together with the Report of the Science Committee of the Institute in 1893. And, lastly, to offer two suggestions for reform without recourse to legislation.

I. STATUTORY RESTRICTIONS ON HEIGHT OF BUILDINGS.

The height of new buildings is restricted in London by statute, and also generally in towns throughout England either by statute or by local enactment.

The London Building Act of 1894 provides in Section 15 for the preservation of a width of 40 feet in all streets, but permits the re-erection of formerly existing buildings to their original extent upon their old line and frontage, and provides that no dwelling-house for working classes shall be erected or re-erected to a greater height than the distance from the opposite side of the street.

Section 41 of the Act regulates the height of domestic buildings in relation to open space required in the rear, by the operation of an imaginary diagonal line drawn from a point at the rear of the site, which may be raised 16 feet above the street level in streets laid out previous to the Act, at an angle of 63½ degrees. This secures that at any point between the opposite back walls of houses having a common boundary the access of light and air is secured above an angle of about 45 degrees.

Section 47 limits, with the exception of churches and chapels, the height of every building to 80 feet, exclusive of two stories in the roof and of ornamental towers and other similar features; and also excepts the rebuilding of any building to its former height which exceeded 80 feet at the passing of the Act.

The London County Council have power to make exception to these provisions as to heights.

Section 48 enacts that no consent of the Council shall be acted upon until an opportunity for appeal has been afforded to the owner or lessee of any building or land, within 100 yards of the site, who may deem himself aggrieved by the grant of such consent.

There is a further important regulation in Section 49 to the effect that no existing building, excepting again churches and chapels, on the side of a street laid out after August 7, 1862 (the date of the Metropolis Management Amendment Act), and of less width than 50 feet, shall, without consent, be erected to a height exceeding the distance of its external wall from the opposite side of the street.

Disregarding the exceptions of the re-erection of pre-existing buildings, places of worship, working-class dwellings erected by local authority, the raising to a proper height of existing attic dwelling rooms, and other similar cases, we have therefore the following restrictions:

1. A general regulation of the height of the back of houses to ensure an angle of about 45 degrees of light.

2. An extreme limit of 80 feet in height in all buildings.

3. In streets laid out subsequent to 1862, of a less width than 50 feet, a restriction of height to width ensuring an angle of 45 degrees of light; and

4. A right of appeal granted to owners within 100 yards distance against any consent to exceptions to these limits granted by the London County Council.

Such legal regulations as these were passed in the general interest of the whole community, and are in their nature sanitary rather than architectural, and their motive is not the desire for symmetry or uniformity of effect. To this, the wise latitude allowed for architectural features—towers, turrets, roofs, dormers, and other addenda—bears witness, as well as the regulations permitting a somewhat free treatment of sites at the corners of streets of varying widths.

The London Building Act of 1894 thus applies to the backs of houses the regulating angle of height first applied to their fronts by the Metropolis Management Amendment Act of 1862, namely, that of 45 degrees from the base. The exceptions that occur accommodate existing vested interests, and evade the opposition to which, being a Private Bill, the proposals would have been exposed if the conversion of old streets into new ones, by the application of rules of height based on modern ideas of sanitary requirements, had been attempted. The extended application of a regulation of height by the angle of 45 degrees, which it is so often asserted has no power as a rule of law, however, gains increased value as evidence of what the Legislature consider to be an essential quantity of light and air from a sanitary standpoint.

There can be little doubt as to the general usefulness and wisdom of these regulations. Buildings of extravagant and Babelonian height are not in great demand at home, and the few examples that we have, principally in Westminster, have not evidently commended themselves to the building community. Such blocks as Queen Anne's Mansions are only tolerable on account of the respectability and hospitality of their tenants; but the mind recoils from the thought of the condition of so lofty a block with slum tenants, supposing, as so often occurs, that the centre of social gravity shifts, as it did once from Theobald's Row and Soho, westwards.

We are not without witness of the unsuitability of lofty blocks for the dwellings of the poorer classes. A sanitary inspector in East London once illustrated this to me by reference to a lofty block of tenements, about seven floors in height, in which the most disreputable and the least cleanly of the tenants had gradually shifted upwards, the rents being cheaper, as the topmost floors were not so readily let, and visitation and inspection by charitable and official agents involved more labour. These upper floors gradually became untidy pandemoniums, an upper world of uncleanness that would not have been so possible at a lower and more general level.

There is also the serious objection that such lofty blocks, when placed near to one another, darken their lower stories, making them gloomy and depressing.

The demand for increased accommodation on central, and consequently valuable Metropolitan sites for a large resident population, however, is a real one, and the practical remedy of cheap and rapid transit to suburban districts by electric tramways, though not coming directly into the scope of our subject, removes a considerable class of buildings from the field of action of light and air litigants.

The existing statutory regulation of height, it may be remarked, is permissive of any height within the limit, and, therefore, not likely to produce lifeless uniformity of skyline.

The risk of dangers in lofty dwelling blocks from defects or failure in construction, from accidental fires, or from an invasion of highly infectious disease, is proportionately much greater than in buildings of restricted height.

It is not, perhaps, too much to say that the public at large as well as the architectural profession welcome such regulations, which make, on the whole, for the general benefit of the people.

It may here be well to remind ourselves that such restrictions are the modern products of legislation, and invade the ancient liberty of the subject to do what he will with his own, and that values of sites, as existing when the more recent Acts were initiated, can be supposed, and therefore asserted, to have been affected and reduced by their provisions, though it is not probable that this has been the case to any serious extent.

The tendency of modern legislation has been to limit the freedom of building owners, but it has left the freedom of adjoining owners to interfere, unmeddled with, and the building owner, therefore, has two opponents instead of one. With restriction of height might there not have been secured absolute permission to build up to that height ?

It is therefore impossible to build to an unlimited height; the legal limit being accurately defined and the application of the law fairly clear; and statutory regulations in the interests of the light, air, and health of the community are without difficulty accepted on either hand.

II. PRIVATE RESTRICTION FOR PROTECTION OF RIGHTS OF LIGHT.

We now have to consider the further restrictions of the height of buildings which are not statutory and which are not exercised on behalf of the general sanitary interests of the community. They are the private, and might almost be called personal, rights to preservation of access of light, when once conferred by prescription, over the land and buildings of adjoining neighbours.

This private and personal right, when once acquired, is indefeasible, and is superior to and refuses at its will the permission granted by the statutory law; the limited height granted in the just and mutual interests of the community being restrained and denied by the prescriptive right of the individual, which is also by nature sufficiently uncertain and indefinite to render its application obnoxious and often a considerable hardship.

The right to prevent the erection of buildings beyond their pre-existing height, opposite to or within sight of a window or light, that can prove the existence of the *status quo ante* for twenty years, is a living, active, growing potentiality. Powerless for restraint, indeed, and invalid for the first nineteen years of the existence of its light, but, so soon as it comes prematurely of age at twenty years, capable of the exercise of such selfish vices as are inherent in the human nature that looks through it. Innocent and perhaps beautiful windows around our dwellings and lands, that we unselfishly permit to enjoy the view of our tasteful gardens and forecourts, are slowly but steadily acquiring a prescription that, like Circe's draught, changes their human nature. In acquiring the dignity of "ancient" they become engines of terror. Once, in the days of their adolescence, they derived with gratefulness sunshine and landscape by means of your restraint and favour, accepting them with humility and thanks; but, having become "ancient," the grace becomes a debt, the humble recipient of favour becomes a dominant owner, and you have in your nearest neighbour a remorseless tyrant, who may prove a veritable Shylock.

The steady but unobserved growth of lights to the prescriptive authority which enables them to restrict building, is not the only peculiarity that renders them uncertain and difficult to deal with. Their effectiveness in action, and the extent of their power to restrain, may depend upon a private and particular use made of the window by its owner for the time being, of which you can form no idea by external observation. Should the light be used for wool-sorting, engraving, or watchmaking, the power of restraint that it exercises is greatly increased over that of more normal purposes; but it were a vain delusion to suppose that if a window lights only an insignificant cellar or ventilates a bedroom it possesses little or no restrictive energy. The practical impossibility of estimating from external observation the fighting potentialities of a mere window makes the application of any recognised limit of concession wellnigh useless.

In effect, then, this private right of dominance and restriction has become seriously oppressive to the holders of property. It is scarcely too much to say that its acquisition is surreptitious, as it procures from a neighbour property of great possible value to him without consideration or consent. A leading provincial member of this Institute, of great experience in these matters, has said: "The obtaining of an easement by prescription is, in my opinion, a simple piece of dishonesty; but still it is the law." It is also correctly described as "a vested interest in your neighbour's property," and is suggestive of a dim survival of a Feudal tyranny. Adding to this surreptitiously acquired right the capricious nature of its use and application, we have stated the existence of a sufficient grievance to justify the consideration of any possibility of relief.

It would be easy to add picturesque descriptions of the anomalies which arise in the application of the art and mystery of "ancient lights" in everyday practice. How abstention from the exercise of your freedom to build in your own time, on your own land, or to complete and add to your house, brings about the ceasing of your right to build at all; procrastination becoming the thief of right as well as of time. How no skill or effort is required by the benefited, in obtaining this extraordinary power of control—the simple method of sitting still, looking on, and saying nothing, being all that is needed; how this unreciprocal mutuality becomes merely robbery by patience; and how the uncertain and temporary continuance of a special use of a window in one man's property, controls the permanent erection of a normal building on another man's.

With the many aids to restriction created by the practice of the law, and the ingenuity of surveyors, we are rapidly coming to regard the heights of an old building as obligatory as the horizontal dimensions of its boundaries. It is scarcely safe in any case to assume the feasibility of an additional story of increased elevation. The operation of the law of prescription on rights of light must of necessity in any crowded city stereotype existing heights, and in the course of time make it obvious that expansion is impossible and general public improvement restricted. We have admitted the communal desirability of sanitary regulation in building heights, and now discuss only this prescriptive right of restraint which is personal and selfish. No common or public interests are furthered by it, and from the point of view of civil architects we cannot but regard its existence and operation as retrograde and inimical to municipal improvement, and unworthy of retention in an enlightened country.

The use that is made of claims for rights of light for delaying building operations, in order to extract heavy compensation from the owner, has become a serious abuse. The rule seems to apply, that the amount of compensation should bear relation to the cost of delay to the building owner, and not to the use and value of the light to the claimant. It therefore frequently occurs that a seldom-used window in a lower story, perhaps to some cellar or basement store, acquires an unlimited fictitious value, if it is in a position to control, by delaying until a trial in court can take place, any part of an important new building. The ethics of these proceedings are those of highwaymen in the last century, and are now generally applied with a similar gentlemanliness and persuasiveness of business tact. But "blackmail" succinctly describes both operations. The sufferer sighs for instant appeal to the Courts of Justice; and the expense of access to them, where the injustice of the proposed imposition could be demonstrated on trial, would be cheerfully borne, for it is nothing compared to the loss that would be entailed by the many months' delay with which he is threatened. But the law, which is swift to delay by injunction, is slow to quicken by judgment, and the tyrant is enabled to enforce his often inordinate claim, without its justice coming for one instant under review.

The two grounds which we have thus stated, of the stereotyping of existing heights in all their inequalities and unmeaningness by private lights, and of the growth of the practice of making heavy claims, which are met through the fear of the delay caused, and not upon the intrinsic value of the light claimed to be damaged, will justify us in urging that reform of the law and procedure is desirable.

III. EXCEPTIONS AND WAIVERS TO THE RIGHT TO RESTRAIN.

It would be difficult to discuss the equitableness of the complete abolition of the power to restrict by private owners, if we had not instances and experience of the effect of such a condition by waiver or covenant upon buildings and property. Taking for granted that the existing statutory regulation of heights is maintained, we remove at once from discussion most of the possibilities of extreme obstruction to ancient lights, as we have reasonable limits both of front and back elevation settled in the general interest.

The case of lights not yet ancient seems much to the point we have in view. For nineteen years of its existence, in a new district, or street, or building, a light has no power to restrict another man's building; it is difficult to sympathise with so newborn a grievance, after nineteen years of non-complaint and peace; what vital change comes over the case on the threshold of the twentieth year of its soulless existence?

The settled decision that ancient lights have no restrictive rights over Crown estates and tenants, affects a large number of important London streets; and though arrived at by different methods, tenants on many London ducal and other large estates are prevented by covenant from acquiring easements over adjoining properties on the same estate.

The right to protect your property against an impending easement by the temporary erecting of an obstruction upon your premises, necessitating a fresh start in the process of acquisition, appears to have a technical quality which indicates that the value of the antiquity thus prevented is similarly technical.

There are also cases—they were formerly more numerous than now—where possible right to restrain is not exercised, and is foregone, either through ignorance of the possibilities of a claim or through a natural acquiescence in a neighbour's obvious right to build to a moderate or similar extent to oneself.

We, however, can consider as exceptions to the right to restrain, the large number of claims in which the receipt of a sum of money makes up for a loss of light, as it does for love in breach of promise of marriage actions; and we might express the disappointed hope in a parenthesis, that the eminent late Lord Chancellor who had at one time the intention of seeking to abolish the latter cause of action, might have seen his way logically to deal with light as well as love. To refrain from exercising a legal right to restrain a neighbour from building on his own land for a money consideration, reduces to a practical basis much that would otherwise be speculative: the light that falls upon your neighbour changes its natural character of the free gift of heaven to men, and becomes a marketable commodity.

Among alternatives to restriction or depreciation of the right to build is the simple expedient of enlarging the means of access of light to the obstructed tenement. Surely a natural alternative, and one that can be economically effected in the majority of cases. The benefit of light derived over another's land is still enjoyed and mutuality obtained without much cost. The cost of enlarging the light—say plus 10 per cent. of its amount for involuntary action—would provide a smaller and more effective basis for compensation than those employed at present, whose name is legion and mystery.

Thus in many ways restriction has been avoided and evaded, and we cannot readily believe that in the large number of cases and individuals represented by these exceptions, any substantial injustice has been endured by an owner of a light. His property does not appear actually to suffer in valuation if he is debarred by covenant or law from a cause of action against his neighbour; or should he be unlucky enough to have an important building erected within his reach and just a year before his prescriptive term, he has lost only a sporting chance of making a good sum in compensation, but it was his luck rather than his right that really failed him. The law recognises no hardship before the magic prescription day, and if it is vain to pretend one before, why should it not continue so afterwards?

IV. PROPOSALS FOR REFORM BY STATUTE.

I do not propose to consider at any length suggested alterations of the law or reforms that involve legislation. It were a simple way out of all the difficulties and anomalies to propose and enact that no right of light over the property of another shall be recognised at law, this being to apply the principle of French law on the point.

The Swedish principle (explained in a paper by Mr. Alex. Beazeley published in the Transactions of the Institute, Vol. II. N.S. p. 125) is also simple, enacting that property may be charged by agreement with an easement for the benefit of another, but such agreements must be in writing and be registered, easements of prospect, windows, rights of way, access to water, and others, being thus dealt with. Such registration when once effected need not be renewed, but the rights comprised in the agreement may, with the consent of the person enjoying them, be subsequently abridged or extinguished. The building law of Sweden also regulates the distance of overlooking windows from a neighbouring plot. Windows cannot be placed nearer than from 7 feet 9 inches to 14 feet 6 inches from the boundary of the plot except by the written consent of the adjoining owner, which consent, however, does not bind a subsequent owner unless he ratify it—a qualification which would appear to render the consent purely temporary. This written consent has to be registered as a contract.

It were also simple, though not so drastic, and would still retain a large field for surveyor's practice, to enact the principle of Scotch law that rights of light exist only by grant expressed in writing, or as a basis of purchase; upon the fundamental principle that every servitude is founded upon the consent expressed or implied of the servient owner, no right of light being obtained by prescription.

The substitution of one of these systems for our present condition—the French of no property at all in light over another's land, the Swedish of registered agreement of any such charge of right of light, or the Scotch of the recognition of a right of light where the grant by consent or implication can be proved, but denying acquisition by prescription—would be an ideal worthy of long and determined effort. Either of these ideal results could, however, only be attained by legislation of a public and general character. The required Bill need not be a lengthy one: a short preamble and a very few clauses of repeal would give the *coup de grâce* to prescription as applied to rights of light, and, if desired, add regulations as to permissive contracts of easement—the law of the three kingdoms being thus harmonised on a unionist policy, and another welcome economical importation from the Land o' Cakes brought to our homes and practice. If such a legal reform could be initiated and carried quietly through by the Government, assisted by the Scotch and London members of the House of Commons, a considerable and welcome relief would be afforded to building operations in towns, and much pressure taken off the cause-lists of overworked judges.

The omnipotence of Parliament, the simplicity of the possible legislative remedy, the exceptional condition of English law upon this matter, and the growing abuses of the present system, would make a good case for an extended discussion of such reform by statute, if it were at all within the region of our expectancy, or corporate capacity for public action. But we must all be conscious that this body is not a proper champion for the redress of public grievances, which have arisen in extensive though small vested interests. It would probably be found that the suspension of the Prescription Act in one particular would arouse suspicions of encroachment on other ancient rights, and the way to success would be long and difficult for any Member of Parliament who might undertake the introduction of such a measure. The Government, of course, if they drafted or furthered a Bill, might be able to carry it through, subject to the state of public business, but this is seldom promising to measures affecting private rights and properties. The prospect is sufficiently unpromising to deter me from hoping for relief in the near future or in this generation from new legislation, though the importance and advantage of such relief may be resolved upon, and represented to the authorities or Houses of Legislature by petition without doing any possible harm.

The important report of the Science Committee of this Institute, which after some long period of previous discussion and consideration was presented in 1893, recommended a procedure which involved legislation. At that period the clauses of the London Building Act of 1894 were in process of discussion before Private Bill Committees of Parliament, and it was hoped by the authors of that report that the Council of the Institute might obtain some measure of reform by securing the assistance of the London County Council, who were the promoters of that Bill.

It was proposed in the report of the Science Committee to obtain deliverance from impending dominant lights, that is, from lights whose prescriptive right was being acquired though not matured, by serving a notice, advertising, and exhibiting a placard in the nature of a sky-sign opposite to such a light for one year, which exhibition should have the effect of a substantial obstruction, the prescriptive term thereupon being recommenced. The report also embodied a suggestion originally made by Professor Roger Smith, that disputes as to rights of light should be defined by the service of a notice of intention to build on the owners of adjoining dominant lights, and include the nomination of a surveyor, as in party-wall notice procedure. The process then followed, in the event of non-consent, by the appointment of a surveyor by the owner of the light, and the nomination by the two of a third surveyor, any two of whom making an award, from which an appeal would lie, not to the county court, as in the case of a party-wall, but to an official referee sitting with a professional assessor, appointed by the Local Government Board or by the Home Secretary, this appeal being final.

These two suggested reforms (which would have applied to London), first of relief from impending dominant lights by a technical obstruction, and second of procedure by removal from the Courts of Law to three surveyors for award of all complaints, if desirable in themselves, are open to this objection, that as legislation is required to effect them, it would be better to seek a more drastic method of dealing with the whole law of ancient lights, which Parliament could as easily accomplish, and which would probably avoid the necessity of any reform of procedure, as there might not in that case be any to reform.

With regard to the first suggestion I would point out that it was proposed to perpetuate all existing ancient lights, as power was only sought to substitute a technical for an actual obstruction, in order to prevent lights, not yet matured as ancient, from obtaining prescription. All the existing tyranny of the prescriptive light would be preserved and increased, as it would obtain the enhanced value of an edition limited in number. The proposed relief would have to be secured by the erection of unsightly temporary notices, liable to rapid dilapidation, upon the skylines of every building, it being impossible to conceive a building in London that has not one observant light somewhere in its neighbourhood. This would result in a new class of buildings altogether, namely, those technically protected during the period of prescriptive growth by means long since vanished, and proof of these matters of absent fact would become an integral part of future actions for protection or restraint. A new element of complication and conflict of doubtful advantage would thus be provided, the non-repeal of the Prescription Act in its application to lights ensuring a still ample field for conflict.

To remove this conflict from the Courts of Law to a tribunal of surveyors was the second reform suggested, based upon the more or less successful operation of a similar procedure in party-wall cases under the Metropolitan Building Act of 1855.

I venture with deference to express the opinion, that while three surveyors meeting upon the *locus in quo*, may provide the best possible authority for determining the facts as to the measurement and structural circumstances of a brick wall, they are not therefore, by analogy, competent to try facts which must depend on the testimony of witnesses other than themselves; title, history, user, and the new technical obstruction, its fact, title and history, would all have to be thoroughly proved by evidence, covering a history of twenty years at least, before the simpler technical matters of measurement, obstruction, and estimation by presumption of its effect, could be reached. I am sadly not convinced that my brethren would form the best tribunal for such a trial. It may be an anachronism in an architect, but, in no disrespect either to my own profession or to that of the law, I affirm a conviction that a Judge who does not know the top of a plan from the bottom, would be a better interpreter of the evidence necessary to a just decision.

But, waiving any question as to the suitability of the tribunal as proposed, it is questionable whether any saving of time and expense in procedure would be effected, as it would be impossible to avoid instructing solicitors in order to prove titles and diversity of interests, as well as to obtain evidence of facts and points for appeal. There are possibilities of complication of practice, and payment of the extravagant fees that even sometimes occur in party-wall procedure, and which in those matters make one sometimes long for the decisiveness, whether for or against your case, of a Chancery Judge's "view of the case."

The whole report of the Science Committee is evidence of a certain and rooted dread of existing methods of procedure. The evil is present with us, and the suggestions for reform, whether practicable or not, show that it is considered almost unbearable, though the possibility of a remedy by legislation is remote, and at present scarcely within the region of practical politics.

V. REFORM WITHOUT NEW LEGISLATION.

Under the circumstances, we may conclude by considering whether anything can be done, apart from appealing to Parliament, to avoid the abuse of delay in procedure which is so fruitful a cause of improper claims, and to lessen the hardship and difficulty of the application of the existing law, until such time as Parliament may come to our aid, and remove another of the ancient anomalies of our system of equity.

We may with possible advantage suppose, that the uncertainty and want of harmony in the decisions upon many cases arises from the lack of agreement among architects and surveyors, as professional witnesses, upon a system for the measurement of obscuration and estimation of its effect. The removal of some of this glorious uncertainty, by the gradual recognition and establishment, as a precedent, of a readily-applied system of measurement of obstruction, would prevent many unreasonable claims from being made, and deter claimants whose professional advisers could readily apply an accepted and customary rule to each case. There will doubtless remain other points, such as sufficiency of light for special purposes, upon which the stream of contradictory evidence can concentrate itself; but in very many cases this would not be the case, and a simple general rule will suffice. The position of the building owner in resisting unreasonable demands, as well as of his architect in preparing the original design for his building, will be strengthened and assisted.

This Institute would, in the consideration of the scientific application of measurement to the access of light over buildings to windows, find a proper and fruitful field for investigation and useful public work. The subject would be found to be one wholly in the region of concrete facts, with little scope for individual opinion. The access of the sun's rays in London during the hours of daylight, upon every day in every month of the year; the average quantity of sunshine; the actual direction of the rays and the measurement of shadows; the comparative value for lighting purposes of high rays, and the periods in the year and hours in the day when each are available; and the diminishing values of lateral rays—all these are factors as to which little enquiry is needed, and dispute impossible.

Simple principles of delineation, for application to any given case of a light and obstruction, would be readily stated, and could with advantage be recommended for adoption. The calculation of ratios of obscuration and percentages of sky area before and after building operations, which, owing to their terseness and statistical appearance, perhaps now carry more weight as evidence than they are entitled to, could with advantage be applied upon an admitted basis of light values, and proceed then to prove a ratio that has proportion to a whole, and a percentage upon an honest capital.

I am sanguine that the experience and skill of the many members of this Institute who are eminent in this class of practice, would, if they can be brought to consider the matter in a scientific rather than a professional spirit, and to concentrate their thought upon agreement as to a basis of scientifically technical evidence, be productive of valuable results. I may mention that comparatively little use has yet been made of exposed sensitive photographic plates as means of measurement for values of light. It should not be difficult to make a technical and scientific use of so certain a method.

A fuller study of this subject by architects must result in their being able to afford material assistance to the Courts of Law, in hearing and deciding cases upon a more systematic and consistent basis than at present, the Courts being in many cases compelled to discount and attach little weight to professional evidence on both sides, for want of a common system of measurement. This reform is within the grasp of our own hands, without the assistance of Parliament, and would not only be worthy of this professional body, but would gradually and surely ameliorate the conditions of our practice as architects.

I am more doubtful as to the propriety of urging the advantages of any alteration in the practice of the Courts, which we cannot effect, but it is worth while to draw attention to the beneficent effect of refusing injunctions, interim or mandatory, and granting money damages after trial. The operation of injunctions is so severe that their exercise may, without undue laxity, be confined to cases where there is probable or possible evasion or contempt of the process of the Courts. Considering the limits already placed by the Legislature upon the height and extent of buildings in the public interest, it may reasonably be urged that further restriction may be met by money compensation. This course of action will remove the costly peril of delay, which is the consideration mainly underlying the large and unreasonable claims that are made and enforced under the shadow if not under the ægis of the Courts. This matter is in the hands of the Judges, and I do not think that it would involve more than an extension of a method often adopted in present practice, while the steady refusal to delay building operations, must bring relief from the growing and serious evil of the "blackmail" to which I have referred.

The assessment of the money damages for obstruction of light, if more general, would not, I anticipate, prove any serious difficulty. This should not be a matter of professional valuation and opinion, but should in all cases be for proved damage, and *pro rata* diminution of rental, market, or other value, or for increased cost of lighting. Each of these can be proved or not upon the merits of the case; and, technicalities apart, the real and ultimate scale for compensation is a matter of fact, not opinion. The expedient of enlarging a light, to receive a wider access over another's land, should again be mentioned as an economical and actual compensation, procuring in many cases a definite improvement of lighting. The effect of requiring proof of actual damages, of awarding money compensation, and of refusing to delay by injunction except in special cases, would be to deprive claimants of the sources of improper gain through delaying building operations, and afford, on proof at trial, proper compensation, the amount of which would bear relation to the injury done.

Either of my two suggested improvements in procedure will effect some alleviation of the present distress, while in conjunction with each other—a consummation for which we can well wish—almost all the evils from which we suffer through the present operation of the law and practice of ancient lights, would be mitigated, if not entirely removed. The Englishman will continue to enjoy his peculiar heritage of a vested interest in his neighbour's property—at all events, until the progress of political light leads the Legislature to reduce him in that particular to the level of a Scotchman or foreigner—and architects, having a more definite knowledge of the legal requirements of their clients' neighbours, will have the pleasure of proportioning their elevations and erecting their dreams without the corroding fear of unknown ills.

APPENDIX.

The Science Committee's Report, 1893.

The following are the proposals in the Report on Light and Air referred to by Mr. J. Douglass Mathews [*ante*, p. 219]. They were drawn up by the Science Standing Committee, and discussed by the General Body on the 13th March 1893:—

1. That the owner or occupier of any tenement, who considers that his ancient lights will be or have been interfered with by the erection or proposed erection of new premises or alterations to old ones, shall have the right to inspect the drawings which shall be prepared by the building owner of the premises which cause such interference, and take such particulars therefrom, or from the building itself if erected, as may enable him to ascertain whether there is ground for complaint.

2. That if such neighbouring owner or occupier consider that the lights of his premises will be interfered with, he shall, within seven days from obtaining such particulars as above, give notice of his objection to the owner of the premises erected, or in course of erection or alteration (hereinafter called the building owner), together with the name and address of a surveyor, who shall have power to act on his behalf.

3. That upon receipt of such notice the building owner shall acknowledge the said notice, and inform the person from whom he received notice of the name and address of his surveyor, who shall also have power to act on his behalf.

4. That such two surveyors above stated shall, within seven days from the receipt of the last-mentioned notice, meet and discuss the objections taken to the work proposed to be or already executed by the building owner, with a view to settle such differences, and in the event of their not agreeing they shall refer the matter in dispute to an umpire, being a member of the Royal Institute of British Architects or of the Surveyors' Institution, who shall view the site and buildings, and take such evidence as he may think necessary, and make an award, which shall determine either or all of the following, viz.:—The right of the building owner to carry out his intended works, the alteration (if any) necessary to be made in carrying out the proposed new buildings or alterations to prevent or lessen the obstructions, and the amount (if any) of compensation of every description to be made, the alterations or improvements to the adjoining premises by light-reflecting surfaces or other means, the amount of costs to be paid by each or either party, and, generally, all matters required to arrive at a settlement.

5. That in the event of either party neglecting to appoint a surveyor within the time before prescribed, or the unwillingness of the umpire appointed to act, and no other umpire being agreed upon, that either party shall apply to the President for the time being of the Royal Institute of British Architects, who shall appoint an umpire with all the powers as before described.

6. That in the event of either party refusing to accept the award, he shall have power, within one month from the publication of the said award, to appeal to a tribunal composed of experts, consisting of seven persons—two of whom shall be Barristers, three Fellows of the Royal Institute of British Architects, and two Fellows of the Surveyors' Institution—three of whom shall act in each case, one of such three being a Barrister. Such tribunal shall decide as to whether the award is sound and equitable, or to so modify it as in their opinion may be necessary, after hearing evidence, with or without viewing the buildings; and they shall have full power to determine the way in which the new building or alterations to the old building shall be carried out; but if either party be dissatisfied with the sum awarded as compensation, he shall have the right of appeal to the High Court.

7. Provided always that a proper undertaking to pay the costs and expenses incurred in delaying the work, if the decision of the first award be adverse, shall be given by the person so appealing from the said award; and that no further appeal shall be allowed where the compensation awarded does not exceed Twenty Pounds.

8. That after the passing of the Act the owner of any tenement not at the time servient to some neighbouring tenement, but over which such neighbouring tenement would in course of time acquire dominant rights, may serve upon the owner of such neighbouring tenement a formal notice, in form and manner prescribed in the Act, and may advertise the same in the daily papers, and such notice shall have the same effect as though an interruption had been submitted to for one year immediately previous to the date of the service of such notice.

9. That no building erected after a certain fixed date shall acquire any rights of light over neighbouring property.

DISCUSSION OF THE FOREGOING PAPERS.

The President, Mr. Wm. Emerson, in the Chair.

The PRESIDENT said they were all conscious of the great importance of the subject of the eloquent and interesting Papers read to them that evening. There was no doubt that the present unsatisfactory state of the law relating to ancient lights was responsible for many acts of great injustice and even atrocious blackmailing by unscrupulous persons. The Institute had had the matter before it several times during the last twenty or thirty years. As they were now in the last year of the century it would be a good thing to bring the matter to a head, and by some concerted action urge upon the Legislature the necessity for an alteration in the law. The matter might form an interesting subject for ventilation at the Congress of Architects to be held at the end of June—that was merely a suggestion, perhaps it might not be thought a suitable subject; at any rate, he would do his best to see that the matter did not fall through, as it appeared to have done on previous occasions. The subject was of too great importance to discuss at so late an hour; he would therefore propose that the discussion be adjourned until the 9th April, when the whole evening could be devoted to it. They would meanwhile have an opportunity to carefully consider the Papers, and he had no doubt that many valuable suggestions would be forthcoming from gentlemen conversant with the subject. For the moment he would simply call on Professor Roger Smith to propose, and Mr. Strahan to second, a vote of thanks to the authors of the Papers.

Professor T. ROGER SMITH [*F.*] said that at that late hour he would not encumber the proposal he had the honour of putting before them with many observations. He asked the meeting to accord a cordial vote of thanks to the distinguished Queen's Counsel, and to the two Fellows of the Institute, who had poured a flood of light on the subject before them. They were specially indebted to Mr. Fletcher Moulton for the lucid way he had sketched out the basis on which could be reasonably rested a claim for a mitigation of many universally acknowledged evils. Mr. Moulton pointed out that, as the situation in England had greatly changed since the Prescription Act became law, and as the aggregation of people in large towns was increasing, a necessary alteration of circumstances demanded relaxation of the law, and the basis he had so admirably laid down was one which had been present to all their minds, although they had never before been privileged to hear it so clearly and incisively put forward. They were indebted to Mr. Douglass Mathews for an exceedingly practical statement of many of the troubles and difficulties that exist, and for reminding them what had been done on a previous occasion by the Science Committee of the Institute. They were likewise indebted to Mr. Beresford Pite for his suggestive Paper, including his very drastic suggestion for destroying altogether the subject of discussion that evening. He was afraid they could not expect the magnanimity of the Legislature would go so far as that, but there were other suggestions in the Paper which were of great value and exceedingly well worth considering.

Mr. J. A. STRAHAN, M.A., LL.B. [*H.A.*], in seconding, said that although the hour was rather late he proposed to say one or two words upon the subject as a lawyer. In the first place he would like to say that the only way this very unsatisfactory branch of the law could be improved was by conferences, such as they had had that evening, between lawyers and architects, not—as some people seemed to think—between men who were practical and men who were not practical. The lawyer, from his own standpoint, was as well acquainted with the subject as the architect; but he was acquainted with it from a different standpoint, and it was only by bringing the two branches of knowledge together that the desired result could be arrived at. Mr. Pite had indulged in a very drastic criticism as to the mode in which the right to light was acquired. He had described that mode as dishonest. No doubt all systems of limitation were dishonest to a certain extent; but any lawyer who possessed experience in tracing title would know that, as a practical necessity, some point would arise when a right which had been long enjoyed unquestioned must be recognised as a legal right. With regard to twenty years giving the right to light, twelve years' enjoyment of land would confer the ownership of the land itself. If one owed a sum of money and neglected to pay it for six years, the claim to it was gone, and it could not be recovered. No doubt it would be very dishonest to set up the Statute of Limitations; but every lawyer knew that as the law stands it would be impossible to make a title to rights over land except some period was fixed when the actual possession of a right would ripen into the legal possession of it. No doubt the easement of light was objectionable. In many countries it did not and could not exist. That was a reasonable state of the law, perhaps; but as long as it was permitted to exist here, it could not be specially immoral to treat it as one treats rights of way and scores of other rights—that is, after a certain number of years' enjoyment without interruption, to acknowledge it as a legal right. The ancient law on the subject was not nearly so unreasonable as the law at the present moment. Mr. Fletcher Moulton had referred to the fact that a change had taken place in the national life, and that we live now far more in towns than formerly, and that consequently those old rights which were reasonable when we were primarily a rustic people had become very unreasonable when primarily we live in towns. He quite agreed, but under the old law the rights did not exist in many towns. Until the Prescription Act, a right to light could not by special custom be acquired by long user in the City of London, and one of the worst examples of careless legislation was the fact that that Act was passed apparently without any criticism being made by lawyers on the fact that it established rights over property all through the City of London which did not previously exist. It seemed to him that there were three improvements in the law very easy of accomplishment, which had been referred to, principally by Mr. Moulton, and also by the other speakers. The first was with regard to giving damages instead of granting an injunction where the right had not absolutely been interfered with, but where it was threatened to be interfered with. The intention of Lord Cairns's Act was to give the Courts a discretion, and he thought that the decisions since the passing of the Act had acknowledged that there was that discretion; but, as Mr. Fletcher Moulton said, the Courts were loth to adjudicate on what they felt themselves utterly incompetent to deal with. The Court should have the right to issue an injunction, but the law should be altered so that an injunction should not issue except where irreparable harm would be done; where no irreparable harm would be done by interfering with the light, the Court should refuse an injunction and refer the question of damages to a special tribunal, such as had been mentioned. The second point where improvement in the law might be made was with regard to allowing compensating advantages to be given as partial compensation for the injury done. The Courts refused point-blank to take into consideration such things as arrangements made by which the interference with light might be mitigated, such as by the use of white tiles. In the present state of the law they had no alternative, but a very small alteration in the law would work a great improvement in that respect. The last point was with regard to interruption. The law as to interruption of enjoyment was at present in a very unreasonable state. It was unreasonable to expect any person to do such an unneighbourly act as to block up windows which were doing no harm, and as a matter of fact it was not absolutely necessary in most cases to do so. If by persuasion, or by a threat to block them up, his neighbour could be induced to enter into a written agreement that he (the neighbour) enjoyed the light by his leave, then the right would not accrue. But that, too, was objectionable. He thought, however, the remedy for that would be found not in altering the mode of interruption, but in applying a principle already recognised by the law. Under section 12 of the Land Transfer Act of 1897, if a person registered himself, after investigation of title, as owner of certain land, no one could, subject to certain limitations, acquire the ownership of that land by adverse possession. Why should not that principle be extended to easements? Why should a person not be able to register his land, mentioning what easements exist, and thus prevent other easements arising? When once registration of title was compulsory, the difficulty in investigating title would not arise: it would only be necessary to refer to the register to find out whether one's neighbour had an easement or not, although he might have had windows overlooking one's land for twenty years. Another point was that referred to by Mr. Fletcher Moulton, as to the difference between the right to light and the right to air. The tendency of the Courts was to apply to them the same principles, and to hold that a person could not acquire the right to air except through a defined channel. The most shocking example of how this works out is seen in the decision (so contrary to common-sense and justice that no architect had ever acted upon it) in the case of *Bryant* v. *Lefevre*, where it was held that a person might build his house as high as he pleased without carrying up his neighbour's chimneys, and cause whatever draught down those chimneys he pleased, because technically he was not interfering with the access of air. The law had departed now altogether from that. The latest case was *Chastey* v. *Ackland*. There it was held by the Court of Appeal that there could be no right by prescription to air coming over the roofs of houses. The decision went to the House of Lords. It was not actually reversed, as the parties settled, but the House of Lords intimated its intention of reversing it, and that could be only on the ground that the right to air was different from the right to light—that while you could only acquire right to light through a defined channel, you could acquire the right to air over an indefinite area.

[*Discussion adjourned to 9th April.*]

Mr. C. H. Brodie [*A.*], Hon. Secretary of the Practice Standing Committee, writes :—

It will, I think, be a help to those looking up this subject, and a useful addition to the Papers, if space can be found in the Journal for the following *résumé* of what the Institute volumes of Transactions and Proceedings contain bearing upon this important matter. These notes will show too that, although nothing appears to have come of the labours involved, the Institute and its Committees have not been unmindful of the subject or its importance. They will also show what the law and practice of other countries are. May we hope now that something will be done to bring the reforms advocated forcibly before the Government and other authorities, with a view to action being taken ?

As long ago as 1866 and 1877 most important Papers were read by Professor Kerr and Mr. Locock Webb, Q.C., and a full discussion followed. These are quoted from later.

On 15th February 1886, our late Librarian, Mr. Alexander Beazeley, read a Paper on "Swedish Building Law," printed in Vol. II. Transactions, New Series. On page 120, under the sub-heading "Windows," it is noted that "no window or opening is allowed in a wall facing a neighbouring plot unless it be distant at least 7 feet 9½ inches to 14 feet 6 inches from the boundary, except by consent of the owner of that plot. His consent does not bind a subsequent owner unless the latter ratify it."

Further, such consent, should the opening be in a party wall, does not prevent the adjoining owner raising his building and blocking such opening.

On page 125 the law of easements on the subject is set forth. Briefly, all agreements charging one property with an easement of any kind over another must be in writing and registered. This can be extinguished. No easement can be acquired by prescription, and no man has even a right to put a window dominating his neighbour's property unless at the prescribed distance, and this conveys no right of light except expressly given in writing and registered.

All must agree with the author's remark that this is "extremely straightforward, simple, and accordant with common-sense."

Why, as regards *new* properties, cannot such a law be passed here, to date from, say, the beginning of next year ?

In 1889, on the 3rd December, Mr. Francis Hooper read a valuable Paper on "Building Control, &c., in France," printed in Vol. V. Transactions, New Series. On page 14 the question of the "servitudes" imposed on building owners is treated, and these are strict as regards windows looking over neighbouring properties. There are no prescriptive rights attaching to such, as there are in England. The Code provides that neither windows nor balconies may be formed *parallel* to the boundary at a less distance than 6 feet 2 inches, nor in a wall at right angles or oblique to the boundary at a less distance than 1 foot 11 inches. The owner of a boundary wall may put lights in it on sufferance, provided these are fitted with stout iron bars and furnished with sashes obscurely glazed. These openings must not, however, be less than 8 feet 6 inches from the floor of the ground story, or less than 5 feet 4 inches from the floor of each upper story.

It will be remembered that it was through such a ground-story window that the few who escaped from the horrible Paris bazaar fire were chiefly saved.

A user of such a light for thirty years appears to give a limited prescriptive right, for the adjoining owner must thereafter keep his building—should he build—5 feet 4 inches distant from the wall in which such windows occur, but the height of his wall is not limited except to conform to the building law.

Under exceptional circumstances lights are permitted at less than the legal distance if the neighbour suffer no inconvenience, or in the case of a skylight, but these may remain only so long as the conditions remain the same.

In streets—these being public property—no rights of light accrue. It is wisely left to the building laws to say just what a man may or may not do. So he knows beforehand, and can design accordingly.

How different is it here !

In the discussion which followed, reported in the Proceedings 1889, Vol. V., pp. 70 *et seq.*, most of the speakers touched on this portion of the subject. Professor Kerr's remarks are particularly forcible. He said : "Mr. Fowler tells us that he cannot see why—and I do not think any of us can—a man should be able to take an easement of light from his neighbour and retain it for ever. . . . But the inconvenience that arises in London from the practical application of the law of ancient lights is indescribable. It comes to this, that a shopkeeper in a back street will seriously argue that his neighbour is not to be allowed to put one brick upon his fence-wall without his leave, and the trouble into which neighbours get, and the hallucinations under which they labour as regards their rights to blackmail each other, are remarkable." Mr. Blashill said : "It does seem to me that on the important questions of terminable leases and of 'light and air,' if this Institute discussed them with the determination of coming to some firm determined resolution which might be put forward as the opinion of the leading body in the profession, it would have some useful influence on any administrative body which exists or is likely to exist in London." This was said on 3rd December 1888. Mr. Blashill was then a Member of Council, and is so still. What has been done? Nothing.

In the same volume of Transactions (1889), on p. 99, will be found some remarks by Mr. J. J. Stevenson in the course of a Paper on "Laying Out Streets." He said: "Some restriction is necessary as to the heights of buildings. . . . There is already such a restriction in the right of ancient lights, which acts, however, in a perfectly haphazard and irregular manner, depending on mere accident, and consisting in stealing a neighbour's property if he does not look out, at cost and trouble to himself, to prevent it. I believe England is the only country where the law recognises such a custom. It does not hold in France or Scotland, nor, I believe, in any of our colonies.* In Scotland a man must depend for his lights on his own ground. It is a private, not a public, right, and it has no value in securing general light and air. It rather tends the other way, enticing the owner to build near his boundary or even on it, on the chance that the attempt may not be noticed, and his neighbour's property be gradually stolen. I gathered from the expression of opinion at a recent meeting, when an excellent Paper was read on the Building Laws of Paris, that my brother members would approve of its abolition. This could not be done at once. Owners could not be deprived of rights already acquired and sanctioned by law. But they might be compelled to take compensation, ... instead of the possessor of ancient lights having, as now, the absolute power of preventing a man using his own land or of extorting compensation in excess of the injury. In any case, the injustice might be stopped for the future by a simple proviso that when not already acquired no rights of ancient lights should in future arise." Here is, at any rate, something to work for, and at once. In the discussion which followed, Mr. E. T. Hall referred to a Paper by Mr. Locock Webb, Q.C. This was "On the Law of Easements," read on 17th December 1877. It is printed in the Transactions for that year (Vol. XXVIII.), p. 88 *et seq.*, "ancient lights" being specially dealt with on p. 94, and many decisions quoted, and the angle of forty-five degrees treated of on p. 98. In the discussion Professor Lewis mentioned an important case (p. 101) where lights admittedly not ancient could not be obstructed because the man who sold the building containing them sold also the adjoining land, and it was held each with existing rights. This is a most interesting and very "tricky" position, and one very difficult to trace in many instances.

In the same discussion Mr. J. Jennings (p. 104) quoted a case in which a building of seven stories was erected with windows dominating neighbouring land, and where to block these would have cost more than the then value of the land. He added: "So far as I am aware, there is no remedy if persons put up buildings under such circumstances; therefore I think it most desirable that whenever the law is altered (and I think it should be altered in several respects), there should be no right of light except by grant." Mr. T. Chatfeild Clarke made a strong appeal for the *compulsory* reference of light cases, to avoid the costs and uncertainty of a law court's decision (p. 107). He said: "So many opportunities are now afforded for litigation, when the effort is often one merely to extort money, that a remedy is urgently demanded." He was backed up by Professor Kerr, who said: "But it is obvious that the right and wrong of the matter is this—let every man build on his own land, and let every man derive his light from his own land or from the public street." In replying, Mr. Locock Webb said he had a pet scheme for settling ancient lights disputes without going to law; but he did not state it. Did he ever? All this was in January 1878. How much nearer a solution are we now—twenty-two years later?

But let us go even further back. In the First Series of Transactions, Vol. XVI. [1866] p. 170, are reported some remarks of Professor Donaldson (following a Paper by Professor Kerr), in which occurs the following: "It seems strange that the law should so disregard the rights of an owner that if a neighbour should cover his plot with a building and derive all his easements of air and light from his neighbour's land, the law does not protect the neighbours from such an assumption nor even by law compel the abatement, but forces them to protect their rights by the expensive process of erections in front thereof—erections possibly useless and nuisances to themselves, and occupying space. Why should they not be able to protect their rights by proper notices, or by law be enabled, as, I believe, is the case in France, by a short process to compel the abatement of the trespass?" This was said on 21st May 1866. "Trespass" is the right word. One may lock up a wretched youngster for going on land in search of perhaps a few birds' eggs; but the owner of adjoining land may by erecting a building filch away perhaps your whole user of it, and after a time there may be no redress whatever.

Professor Kerr's Paper is printed in the same Vol. XVI., at p. 149, and incidentally he remarks that "even Lord Chancellors did not hesitate to deplore the effect of the decisions they were pronouncing, and to suggest that the time had possibly come for the Legislature to interfere (both Lord Westbury and Lord Cranworth)." And this, I repeat, was in 1866.

But to return to more recent papers. In the

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* Nor in the United States might have been added. —C. H. B.

New Series of TRANSACTIONS, Vol. VI. p. 117 (1890), Mr. John Slater, in a Paper on "Building Legislation," said that it was only after the second Punic war, which finished 202 B.C., that any Roman law affecting rights of light and prospect became necessary. "Both in Roman and Byzantine regulations are found powers to control the height of buildings." Further on in the same Paper (p. 131), Mr. Slater remarked: "If a comprehensive Building Act were in operation it would prevent all acquisition of prescribed rights of light in the future, because, as I have shown, it would invariably allow sufficient light to all windows. . . . In Scotland there is no right of light under prescription or under statute, and many people would gladly welcome such a state of things here. . . . In far too many cases the damage inflicted by raising buildings is infinitesimal, and there cannot be the slightest doubt that injunctions are often applied for with the sole purpose of getting something out of the pocket of the building owner by threatening serious delay to his works." Commenting on this Paper, Mr. Holden remarked (PROCEEDINGS, Vol. VI. p. 251): "The obtaining of an easement by prescription is, in my opinion, a simple piece of dishonesty."

Vol. IX. of the TRANSACTIONS (1893) contains, on pp. 235–243, one of the most important Papers perhaps ever published on the subject of "ancient lights." It is a Report of the Science Standing Committee submitted to the General Meeting. It is not necessary to quote from it or the very long discussion upon it; now that members have the reference, it is better they should study it themselves.* But it is interesting to note that it contains proposals put forward recently by another Society without, as far as I am aware, the slightest reference or acknowledgment. Yet this Report was considered on 13th March 1893. It was eventually referred back to the Committee—after an approval of its "general principles"—for "revision of details."

The Revised Report is published in Vol. I. JOURNAL, 3rd Series (1st March 1894), p. 323, and it is stated that the Committee recommend the Council to ask the L.C.C. to include clauses similar in effect to it in their new Building Act. I am informed that this was done. But the matter does not seem to have been pressed, and the result is that others have been allowed to take a position before the Law Officers of the Crown and elsewhere, which the Institute, from its vastly greater influence, should have assumed. The Revised Report is considerably whittled down from the original, and contains suggestions simply for (1) applying to "ancient lights" the exact procedure provided in the London Building Act, 1894, for party walls; and (2) enacting that after the passing of the Act proposed a servient owner may by simply serving a notice on the dominant owner, and by advertisement in the daily papers, prevent the acquisition by the latter of "ancient lights."

The first of these proposals for settling actions with regard to interference with existing ancient lights is, in my opinion, excellent, but the second does not go far enough. Why should I have to serve notice on a man who proposes to steal from me, that I do not intend to permit it? Where is the logic of such a position? The law is supposed to be such as to prevent theft by punishing the wrongdoer if he breaks the law. That is the position with regard to all questions but that of ancient lights. There it is the victim of the theft that is punished. If a man trespass on my land I can punish him. If he create a nuisance I can get an injunction against him. But if he *build* he becomes the *dominant* owner, and it is he who can invoke the law to prevent me making a fair, or perhaps even *any* use of my land. Such a state of things at the beginning of the twentieth century is monstrous.

Nothing less than the stoppage from a certain date of all right to acquisition of light except from the curtilage of the premises of which the lights are a part, will be either fair or satisfactory. And it is this and the settlement of disputes without resort to the Law Courts that the Institute should set itself vigorously to secure—in conjunction, perhaps, with the Surveyors' Institution.

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* Reprinted in the present number as an Appendix to the foregoing Papers [p. 231, *ante*].

THE ROYAL INSTITUTE OF BRITISH ARCHITECTS 1834
INCORP. 1837 1887

9, Conduit Street, London, W., *24th March* 1900.

CHRONICLE.

Professional Advertising.

The question of professional advertising having been considered by the Council, they particularly desire to direct the attention of members to the following two resolutions passed at their meeting on the 5th March :—

1. That it is not derogatory to the profession for an architect to sign his buildings in an unostentatious manner, similar to that adopted by painters and sculptors.
2. That it is undesirable for architects to place their names on boards or hoardings in front of buildings during course of construction, for purposes of self-advertisement.

The Supporting Power of Rocks and Soils.

The Science Standing Committee has undertaken an inquiry into the supporting power of rocks and soils.

The aim of the undertaking is to ascertain, if possible, the actual carrying power of the ground itself under normal or abnormal * conditions. It is *not* intended to include an inquiry into the methods for overcoming deficiencies in foundations.

Members of the Institute and of the engineering profession can materially advance our knowledge of this somewhat neglected subject if they are willing to co-operate with the Science Committee, either by giving the results of their personal experience, or by referring to results of this nature published at home or abroad.

The following suggestions are made as indicating the general scope of the inquiry. It would materially facilitate the work if those who are good enough to volunteer their assistance would, as far as practicable, record their observations in the following manner :—

Geological Data.—The *geological name* of the bed referred to should be given, together with the precise nature of the rock or soil referred to, and, if possible, the thickness of the bed. The relation of the particular bed to those above and below it should be dealt with, and the precise locality and height above O.D. should be stated. Wherever practicable, reference should also be made to the geological maps and sections of the district, where such exist.

It is thought that by such evidence it may be possible to correlate beds of similar geological age and formation in different localities. When only general terms are used, as, *e.g.*, clay, sand, gravel, and the like, no such comparison is possible ; but if a particular stratum of, say, the Oxford Clay, is referred to in a particular locality, it may be possible to form a close comparison of the bed in that locality with a similar stratum in another locality.

Physical Data.—So far as the physical facts are concerned, they should likewise be as precise as possible. The circumstances under which the information was obtained and the nature of the load should be correctly stated, and it should be made clear that it was either an actual known dead load or a calculated floor load. It is also necessary to explain how the load was applied, including depth below surface, to state the superficial area tested, the weight per foot superficial, and the actual result of the test.

Generally.—For the sake of precision it should be stated if the information is the result of direct experiment, with a view to ascertain the supporting power of the rock or soil, or if it is the result of observation upon a building or other similar load.

It should also be stated whether the observations or experiments are original or are references to published results.

The Committee will be glad to receive promises of assistance on the above lines, and communications from the members of the Institute will be welcomed, with any suggestions tending to a more complete inquiry.

The late Alexander Kendall Mackinnon [*F.*].

Mr. A. K. Mackinnon, whose death was announced at the Meeting of the 5th inst., was born at Monte Video in 1826, and educated in England —first at Hoddesdon, Herts, where he acquired a taste for scientific studies, and subsequently at University College, London, where he attended the Engineering and Architecture classes, distinguishing himself especially in civil and mechanical engineering. He served for a short time under Mr. Thomas Page, the Department Engineer of Woods and Forests, and in 1852 left England for Uruguay. After filling the post of Engineer to the Gasworks, Monte Video, he proceeded to Buenos Ayres, where he was appointed on a Government commission to report on designs for the Custom House. He next prepared designs for the first section of a railway from the capital to San José de Flores, and plans and estimates for the lighting of Buenos Ayres with gas. Returning to England, for seven years he was engaged in tin and copper mining in Cornwall. In 1863 he again went to Uruguay, and, in recognition of his services to the city of Monte Video in laying out new roads and carrying out various improvements, he was appointed Director-General of Public Works. In this capacity very extensive and varied work passed through his hands. By his efforts the use of the theodolite instead of the compass was made obligatory in all surveying operations in Uruguay, and he initiated the geodetic survey of the country. He fixed the gauge for the railways of Uruguay, and planned and carried out a reclamation scheme and the construction of a sea-wall cutting in connection with the Central Uruguay Railway. He planned a network of telegraphic lines to join Uruguay to Argentina and Rio Grande do Sul, subsequently carried out; assisted in the formation of various railways and telegraphic cable communications throughout the Republic; and in later years presented the Government with plans for improving the harbour. Another office he held under the Uruguayan Government was that of President of the Topographical Department. Among his multifarious official services for the Republic was the successful negotiation of a loan of three and a half millions sterling, an operation which proved of immense advantage to the country. He also prepared designs for its gold and silver coinage, the dies being engraved by the late Mr. Wyon. Among the buildings in Uruguay designed and carried out by him were the London and River Plate Bank, the Lazaretto of the Island of Flores, various private buildings, the fireproof Custom House, and designs for the Orphan Asylum. Mr. Mackinnon devoted much attention to, and laboured hard for the development of the industries of Uruguay. He produced a voluminous Code of Industries for the then Native Society of Arts and Sciences, and sent seeds (grasses, plants, forest trees) for acclimatization to the country from all parts of the world, as also works on architecture, engineering, and agriculture. For some years since 1887 Mr. Mackinnon had been Consul for Uruguay.

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* As, for example, a plaster-clay in its ordinary condition, and when drained of its moisture, or hard.

Mr. Mackinnon was elected a Fellow of the Institute in 1870. He spent the closing years of his life in England, and a few months ago, at his request, was transferred to the class of Retired Fellows. He was also a member of the Institution of Civil Engineers and a Fellow of the Geological Society.

The late John Ruskin.

With reference to the statement in the article on Ruskin in the last issue that Mr. Ruskin, senior, lived in Bloomsbury, Mr. Henry Lovegrove [*A.*] writes that when Ruskin was four years old his father went to reside at No. 28 Herne Hill, the front top attic of which was for many years young Ruskin's bedroom. In 1850 the family removed to No. 163, Denmark Hill, and lived there for more than twenty years. The house on Herne Hill has been for many years occupied by Mrs. Severn (Ruskin's cousin), and her husband, the well-known painter. A memorial tablet is proposed to be placed in St. Paul's Church, Herne Hill.

The Librarian desires it to be known that the Library does contain the volumes of "Loudon's Magazine" referred to by Professor Kerr [*ante*, p. 182], and stated not to be in the Institute Library. Its proper title is *The Architectural Magazine*, and it is indexed in the Catalogue under "Journal" and "Loudon." The *Magazine* only ran to five volumes, and the Institute has them all. The series of articles under the title of "The Poetry of Architecture," signed "Kata Phusin," and written by Ruskin when in his teens, began in vol. iv. (1837), and were continued throughout vol. v. (1838). There are a dozen or more articles, some of them illustrated, under the following sub-titles: Lowland Cottages of England and France; Mountain Cottage of Switzerland; Mountain Cottage of Westmorland; A Chapter on Chimneys; The Mountain Villa of Italy; The Lowland Villa of England; The English Villa; The British Villa—The Cultivated or Blue Country; The British Villa—Hill or Brown Country.

Architects' Benevolent Society.

The Annual General Meeting of the subscribers of this Society was held in the rooms of the Royal Institute on Wednesday, the 14th March, Mr. J. Macvicar Anderson presiding, in the unavoidable absence of the President.

The Minutes of the last meeting having been read and confirmed, the following Report was read:—

In presenting their Fiftieth Annual Report the Council of the Architects' Benevolent Society have the pleasure to congratulate members of the Society on the attainment of its Jubilee, as it was founded in 1850. From small beginnings the Society has steadily developed to its present size and efficiency; during its existence many thousands of pounds have been collected and distributed amongst deserving applicants. Through the agency of the Society distress has been alleviated, domestic calamities averted, temporary difficulties, due to ill-health or other causes, overcome, and old age relieved of the burden of poverty. It has taken a place amongst philanthropic institutions, and provided for the architectural profession an opportunity for benevolent effort on behalf of its indigent members, which could not have been so effectively provided by other means. It is a matter of regret that this opportunity has not been more generally appreciated than has been the case hitherto. The desire, expressed at the first annual meeting of the Society and repeated frequently since, that every architect in active practice should become a contributor, is still very far from realisation.

The proposal to celebrate the fiftieth anniversary by a festival dinner, announced in the last issue of the Red Book, has been duly considered during the year; but, owing to the many calls upon private means in consequence of the war in South Africa, it was decided to postpone the celebration to a more convenient opportunity.

The amount received in subscriptions during the year on which your Council have to report was £469 3*s.*, which shows a small diminution on the amount received the year before. Eleven members failed to pay their current subscriptions, four withdrew from the Society, while ten new members have joined the list of subscribers.

The Council have gratefully to acknowledge the receipt of the following donations: Mr. J. Macvicar Anderson, £18 10*s.*; Colonel R. W. Edis, £10 10*s.*; Mr. F. Wallen, £5 5*s.*; Mr. G. Inskipp, £5 5*s.*; Mr. J. T. Christopher, £5 5*s.*; Mr. E. Tewson (per Mr. Roumieu), £5 5*s.*; Mr. Wm. Emerson, £5; Mr. J. M. Brydon, £5, and many smaller amounts.

It is with great regret the Council have to record the death of two of the most distinguished members of the Society, the Duke of Westminster and Sir Arthur W. Blomfield, both generous subscribers. Sir Arthur Blomfield was a Member of the Council at the time of his decease.

Six meetings of the Council have been held during the year, the average attendance at each meeting being eight.

The sum of £145 has been paid to the Society's six pensioners, and £552 4*s.* distributed amongst forty applicants for relief.

During the year, two of the pensions becoming vacant through death, the places were filled by eligible candidates.

The following gentlemen, being the five senior members, retire by rotation from the Council: Mr. H. L. Florence, Mr. J. T. Christopher, Mr. Sydney Smirke, Mr. W. Grellier, and Mr. E. W. Mountford. Further vacancies have occurred through the resignation of Colonel Edis and the death of Sir Arthur Blomfield. To fill these vacancies the Council have the pleasure to nominate Mr. Arthur Cates, Mr. E. A. Gruning, Mr. G. T. Hine, Mr. H. C. Boyes, Mr. Zeph. King, Mr. G. Inskipp, and Mr. J. T. Wimperis.

The Balance Sheet and Income Account for the year ended 31st December 1899, audited by Mr. Henry Dawson and Mr. Zeph. King, are submitted.

The Council wish to express the indebtedness of the Society to the Royal Institute of British Architects for office and other accommodation, and to the Secretary (Mr. Locke) and to his assistants for their helpfulness and courtesy in any matter connected with the Society.

In moving the adoption of the Report the Chairman regretted that the Society did not receive greater support from the general body of the architectural profession.

Mr. Arthur Cates, speaking at some length, submitted to the meeting a series of statistics which he had compiled from the Report and Accounts for 1898, from which it appeared that the total donations by present members of the Royal Institute to the Society amounted to £1,951 7*s.* 0*d.* This sum had been contributed by 117 Fellows and 37 Associates. With regard to the annual subscriptions, 138 Fellows and 38 Associates contributed annually £260 17*s.* 8*d.* He thought a larger proportion of members of the Institute out of the 618 Fellows and 993 Associates should subscribe to the funds of the Society.

Mr. H. L. Florence moved, and Mr. J. T. Christopher seconded, that the Council for the year of office 1900–01 should be elected as follows:—President, the President of the Royal Institute of British Architects; Mr. R. St. A. Roumieu, Mr. W. Woodward, Mr. E. B. I'Anson, Mr. E. H. Martineau, Mr. E. T. Hall, Mr. T. M. Rickman, Mr. R. A. Briggs, Mr. Arthur Cates, Mr. E. A. Gruning, Mr. G. T. Hine, Mr. Zeph. King, Mr. H. C. Boyes, Mr. G. Inskipp, and Mr. J. T. Wimperis.

This was agreed to.

A cordial vote of thanks having been passed to Mr. W. Hilton Nash and Mr. Percivall Currey for their services respectively as Hon. Treasurer and Hon. Secretary, both gentlemen were re-elected for the ensuing year.

Mr. J. T. Christopher and Mr. Percy Hunter were elected auditors.

A vote of thanks to the Royal Institute, for office accommodation, and to the Chairman brought the proceedings to a close.

External Staircase, Town Hall, Perugia.

Mr. John Hebb [*F.*] writes:—

It is satisfactory to note that the question of the rebuilding of the external staircase to the Town Hall at Perugia has, after a discussion extending over several years, been at length disposed of in a manner which appears to meet with general approval.

The Town Hall has been thoroughly restored, as may be seen by comparing the photograph of the exterior on page 527 in the last volume of the Journal with the photograph of a drawing of the north front, by Mr. R. Phenè Spiers, on page 526; but the external staircase on the north side, erected by the architect to the city in 1832, and said to be on the lines of a more ancient staircase, remained intact until a few years ago, when it was pulled down. The municipality was desirous of replacing this staircase by a new staircase with a double ramp, but this was resisted by the Reunione Artistica, of which Doctor Alessandro Belucci is a member, and whose erudite study of the question of the staircase was reviewed in the last volume of the Journal, pp. 524–5.

The Minister of Public Education, Professor Bacelli, on the report of a Commission appointed for the purpose, has adopted the type of an open staircase (*una scala poligonale a libera discesa*), as advocated by Dr. Belucci, in his pamphlet, and in forwarding this resolution to the Mayor the Minister cordially thanked the President and other members of the Reunione Artistica for the interest they had taken in the matter.

LEGAL.

Architects' Charges—The Institute Schedule.

WHIPHAM *v.* EVERITT.

This case, reported in *The Times* of 22nd March, was heard by Mr. Justice Kennedy in the Queen's Bench Division on the 20th March. The plaintiff, Mr. E. A. Whipham, was an architect practising at Stockton. The action was brought to recover £169 16*s.* for professional services rendered and work done for the defendant in connection with the preparation of plans, elevations, sections, and specifications, and obtaining a tender for building a villa at Saltburn. The amount of the tender was £5,660. The defendant considered this sum too high, and, in consequence, the building was not proceeded with. The sum claimed by the plaintiff was 3 per cent. of the amount of the tender, and he said that his charges were fair and reasonable and in accordance with Rule 5 of the Schedule of Charges prepared and issued by the Royal Institute of British Architects, which was as follows:—"If the architect should have drawn out the approved design, with plans, elevations, sections, and specifications, the charge is 2½ per cent. upon the estimated cost. If he should have procured tenders in accordance with the instructions of his employer, the charge is ½ per cent. in addition." The defence was that the plaintiff had verbally agreed that if the defendant decided not to build he would charge only for the time occupied in preparing the plans and obtaining the tender; and that the sum claimed was excessive and unreasonable. The defendant had before action tendered to the plaintiff £75, which sum he paid into Court. Mr. E. A. Gruning, Vice-President of the Institute, was called as a witness in support of the plaintiff's claim. On behalf of the defendant two architects gave evidence to the effect that the scale of charges issued by the Institute was not universally adopted in the profession, and that for the work done by the plaintiff £75 was a reasonable sum to pay.

Mr. H. F. Manisty appeared for the plaintiff; Mr. J. Roskill for the defendant.

Mr. Justice Kennedy held that there had been no such verbal agreement as was alleged by the defendant. The plaintiff was entitled to a reasonable remuneration for the work done. The rule of the Institute as to charges was not binding in law, because it was not a custom of so universal an application as to be an implied term of every contract. But in considering what was a reasonable charge, it was right to take into consideration the practice adopted by the large proportion of the profession, as shown by the rules drawn up by the Council of the Institute for the guidance of the members of the profession. One of the witnesses for the defendant had himself admitted that Rule 5 ought to apply to such a case as this, but for the fact that the plans were, the witness said, defective. There had never been any suggestion before that the plans were incomplete, and his Lordship was of opinion that there was no ground for that suggestion. His Lordship thought that the plaintiff was entitled to 2½ per cent. of the "estimated cost" of the building. The word "estimated" gave rise to a little difficulty, but as the plaintiff himself had admitted that the amount of the tender, £5,660, was rather high, the learned Judge thought that if he gave the plaintiff 2½ per cent. on £5,000, that would be a reasonable remuneration. His Lordship also deducted the ½ per cent. claimed for obtaining a tender, because the plaintiff himself had not charged that in the first instance, and, further, it was doubtful whether the plaintiff had obtained a tender within the meaning of the rule. There would be judgment for the plaintiff for £125 with costs.

MINUTES. X.

At a Special General Meeting, held Monday, 19th March 1900, at 8 p.m., Mr. William Emerson, *President*, in the Chair, with 31 Fellows (including 9 members of the Council), 34 Associates, 3 Hon. Associates, and a few visitors, the Minutes of the Special General Meeting (Alterations in By-laws) held Monday, 5th March [*ante*, p. 208], were taken as read and signed as correct.

The Chairman, having announced that the Meeting was called, as required by Clause 33 of the Charter, to confirm the resolutions respecting changes in By-laws 25, 29, and 30 passed at the Special General Meeting of the 5th March 1900, moved, and it was thereupon

> Resolved, *nem. con.*, That this Meeting do confirm the following Resolutions passed at the Special General Meeting of the 5th March 1900—viz.
>
> > That in By-law 25 the words "thirty-six" in the first line be altered to "thirty-eight," and that the word "two" in the second line of section (*a*) be altered to "four."
> >
> > That in By-law 29 the second sentence be altered so as to read, "Any Associate shall be eligible to serve as an Associate-Member of Council."
> >
> > That in By-law 30 the word "three" in the seventh line be altered to "six;" and further that the words "but the names of members of the existing Council shall be distinguished by an asterisk" be omitted from the same By-law.

The Chairman having stated that the Council would take steps to obtain the sanction of the Privy Council to the changes in the By-laws indicated in the resolutions thus confirmed, the Special Meeting terminated.

At the Tenth General Meeting (Ordinary) of the Session 1899–1900, held at the conclusion of the Meeting above minuted, and similarly constituted, the Minutes of the Special (Royal Gold Medal) and Business Meetings held Monday, 5th March 1900 [*ante*, p. 208], were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted and signed the Register, viz.—Frank Foster, Thomas Anderson Moodie, and Herbert Henry Dunstall.

Papers on Reform in the Law relating to Ancient Lights having been read by Messrs. J. Fletcher Moulton, Q.C., M.P., F.R.S. [*H.A.*], J. Douglass Mathews [*F.*], and Beresford Pite [*F.*], a vote of thanks was passed to the authors by acclamation, and the discussion was adjourned to Monday, 9th April.

Mr. C. H. Brodie [*A.*] having given notice that, on behalf of the Practice Standing Committee, he would bring forward at the adjourned Meeting a resolution in connection with the subject of the Papers, the proceedings closed, and the Meeting separated at 10.30 p.m.

THE LATE WILLIAM BUTTERFIELD, F.S.A.

IT is no empty patriotic boast to assert that in this country alone has the revived practice of mediæval architecture brought forth exponents, few though they be, who have probed its mysteries, mastered its spirit, and founded upon it individual and living types. In France the erudite efforts of Viollet-le-Duc did no more than galvanise a corpse, while in Germany a too exclusively technical training upon the one hand has striven with an inheritance of weak sentimentalism upon the other, and between them produced a mere mechanical travesty of the ancient manner. In America, following in the main modern French architectural tradition, revived Gothic has taken no hold, and brave efforts to work in the style, as for instance the costly marble cathedral of S. Patrick at New York, show neither appreciation nor accurate scholarship, and but very little imagination.

We need not seek far for the cause. The wave of romanticism in literature which preceded the mediæval revival was widespread, but alone in this country was a religious enthusiasm awakened, which, in its reaction from Puritanism and whitewash, carried men's minds back enthusiastically to Catholic tradition and Catholic art, and accomplished what was beyond the scope of a merely antiquarian fervour.

Let Butterfield speak for himself, in some rough notes written in the third person which he has left behind, of the part he took in this movement and his views respecting it.* "Mr. Butterfield's choice of a vocation in life was made before any accurate and detailed study of church architecture had been made. There were then in fact no practising church architects of any repute except Pugin, who was beginning work. Rickman's catalogued examination of English churches was a useful pioneer—no more. His own mind however was strongly inclined for work of that character. At the close of his articles, he spent a considerable time in laboriously visiting old buildings and specially churches throughout many parts of England. In their then neglected condition they were in many ways far more interesting and instructive for purposes of examination than they can ever be again. But few living persons can at all realise the appearance they then everywhere presented. Many a valuable tradition has been very needlessly since destroyed. This method of working led naturally to a very warm sympathy and intercourse with the Cambridge Camden Society which was then coming vigorously into existence. With many of its founders he formed friendships of an intimate and enduring character which moulded his professional practice and eminently suited his own special temperament.

"It was a very singular moment. The Ecclesiastical revival, both in theology and in its architectural expression, was then just beginning. Members of the two Universities were working for the same end in their different ways, and quite independently of each other. The *Ecclesiologist* was the mouthpiece of the Cambridge Camden Society and did very able work. A remarkable instinct combined with good sense and other gifts, quietly exercised by this society, made their work an eminently useful one, in asserting principles and restraining the ill-instructed private taste and judgment which have since often displayed themselves to excess, and which the excitable spirit of the day has naturally favoured."

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* These notes are prefaced by the characteristic statement: "In the event of any professional facts being inquired after by any qualified persons (which is unlikely), such notes as these may prevent mistakes."

Born in Gordon Square, London, in the year before Waterloo, Butterfield was thus one of the protagonists of the English revival, which has flowed and ebbed in this century now expiring, and left an inextinguishable influence upon the history and practice of architecture in this country. Unlike his contemporary Pearson, who was cut off, despite his advanced age, in the full vigour of his strongest work, Butterfield had lived beyond his long years of activity, and took a grim interest in seeing himself described from time to time as of another age and world.

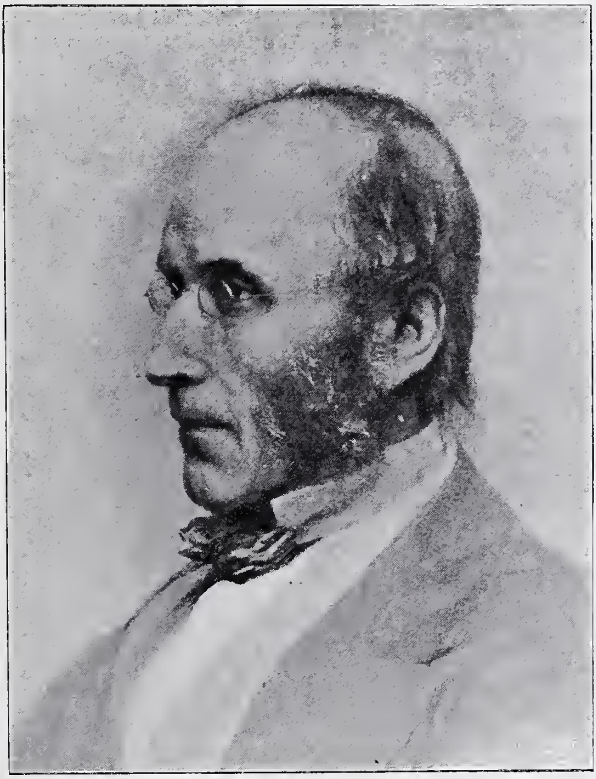
Latterly, it is true that he lived in the past and railed at the present as an age of degeneracy in which he saw no light and for which, certainly as regards architecture, he had no hope but the exiguous one of handing down those traditions of practical utility which he had by sustained effort established for his own use, and believed in with all the fervour of his strong nature. It was his evident pleasure, and indeed no vain boast, to quote the words addressed to him by an eminent ecclesiastic : "I can preach in your pulpit, I can read at your lectern, I can pray at your desk, I can baptize at your font, I can serve in your sanctuary, my people can worship reverently in your seats." His strength lay in his infinite capacity for taking pains over matters of detail. Into his inferences from ancient work he read his own views of what was right and reasonable for modern use, and thus the surprising statement, which he once made to the writer, that there was an historical precedent for every feature of his work, can be perhaps in some measure comprehended. His early studies were most interesting. He made careful geometrical drawings of ancient detail in pencil, accurately figured, and these were frequently inked-in afterwards with a fine and firm line, freely drawn. His observation covered a wide field, every kind of detail being represented, and it is not a little curious that there were many excellent studies of late Perpendicular woodwork, with which he showed no sympathy in his own production. His sketch-books have unfortunately been recently destroyed. It must not be forgotten that these studies were his only text-book in early days. His drawings and designs were never signed or dated, and there is some difficulty in tracing the dates of his various works.

Butterfield's reputation has suffered from his qualities. An intense individuality pervaded all that he touched. He believed in his mission and knew no hesitancy. His early connection with the Camden Society and the early heresies and extravagancies of the wanton era of "Restoration," caused to pass under his hand many ancient fabrics upon which he set his mark, and left in the main nothing else, being one of the foremost instruments in the destruction he laments in the above quotation. We are wrapt in wonder that he could appreciate so much and spare so little. He despised the insipid and empty renovations of Scott, he was altogether blind to the tender and scholarly respect and the delicate abstention of Pearson, and it is perhaps not surprising that the many, whose shallow sense of sentimental respect for ecclesiastical antiquity overrides their grasp of genuine architectural production, appraise the man by the failures which were inherent to his very instincts, and judge his creations by the relentless destruction he wrought upon many cherished monuments. We can regret for our own sake and for his reputation's that he was ever called in to deal with a single ancient fabric, but let us not confuse issues. Butterfield was essentially a creator, and when most of the paltry work of the revived Gothic, typified by the churches of West-end

London squares, has passed out of history as unworthy of aught but scorn, Butterfield's best efforts will remain, full of vigour, strength, and virility, types of a strong soul—a master of his craft.

Some of his earlier designs, it is true, exhibit little promise—witness the library of S. Bees College—but his advance was rapid and decided, although it must be remarked that he was, from his very nature, but little influenced by the phases of revivalism which played upon men of less strenuous expression.

In his early manner, as at S. Matthias, Stoke Newington (1853), and the College of S. Augustine at Canterbury (1850), he allows himself to be curbed by his studies then fresh upon him, and maintains a quiet simplicity. It is probably at All Saints, Margaret Street (1858), his individuality first finds itself, thereafter to develop, sometimes into almost riotous expression. This fine effort undoubtedly brought him to the forefront among his fellows, and indeed possesses so much that is noble, fresh, and dignified, that one is almost oblivious of the lack of fine taste in colour, which, in the interior, disfigures its windows and sprawls over its walls in restless and worrying profusion. To step from the neighbouring busy streets into its cleverly composed courtyard is to enter at once into a sense of the dignified rest of the mediæval cloister. This is a masterly attainment, the like of which few other modern architects can set to their credit, and it is not surprising that Ruskin himself accorded the building his warm approval, but based upon it hopes for architectural development which were destined to remain unfulfilled.



WILLIAM BUTTERFIELD

From a drawing by the late Dowager Lady Coleridge.

Butterfield was fond of asserting (in private conversation) his mission to give dignity to brick, and there is no doubt that the world of his day was ignorant or oblivious of the fine examples of early brick architecture extant in this country, in North Germany and Scandinavia.

His next important effort was at S. Alban's, Holborn (1862), an edifice whose dignity of proportion both inside and out must ever testify for him. The unique treatment of the saddleback tower—a form which he affected and sometimes imposed without any hint of justification upon ancient churches, as at Brigham, Cumberland—is almost brilliant, failing only to give complete satisfaction by the apparent weakness of substance upon either side of the window arches. Rugby chapel (1875) is not so satisfactory, and yet possesses most striking proportions internally. Here he retained the traditional collegiate plan, but at Keble and in the disastrous rearrangement of the Winchester chapels, with a wilfulness all his own and with great loss of effect, he discarded it in favour of that of the ordinary church. In these works his individuality and unfortunate lack of sensitiveness in colour design were rapidly gaining ground, and reached the extreme of vagary and restlessness in that by which his name will probably best be known to future generations—Keble College. It may be said with no little truth that Keble can only be properly appreciated upon a foggy day or in a photograph, and it was something of a test of self-control to hear its author assert that one of his chief objections to permitting the illustration of his work in the professional journals was the necessary absence of their colour scheme upon which he set so much store.

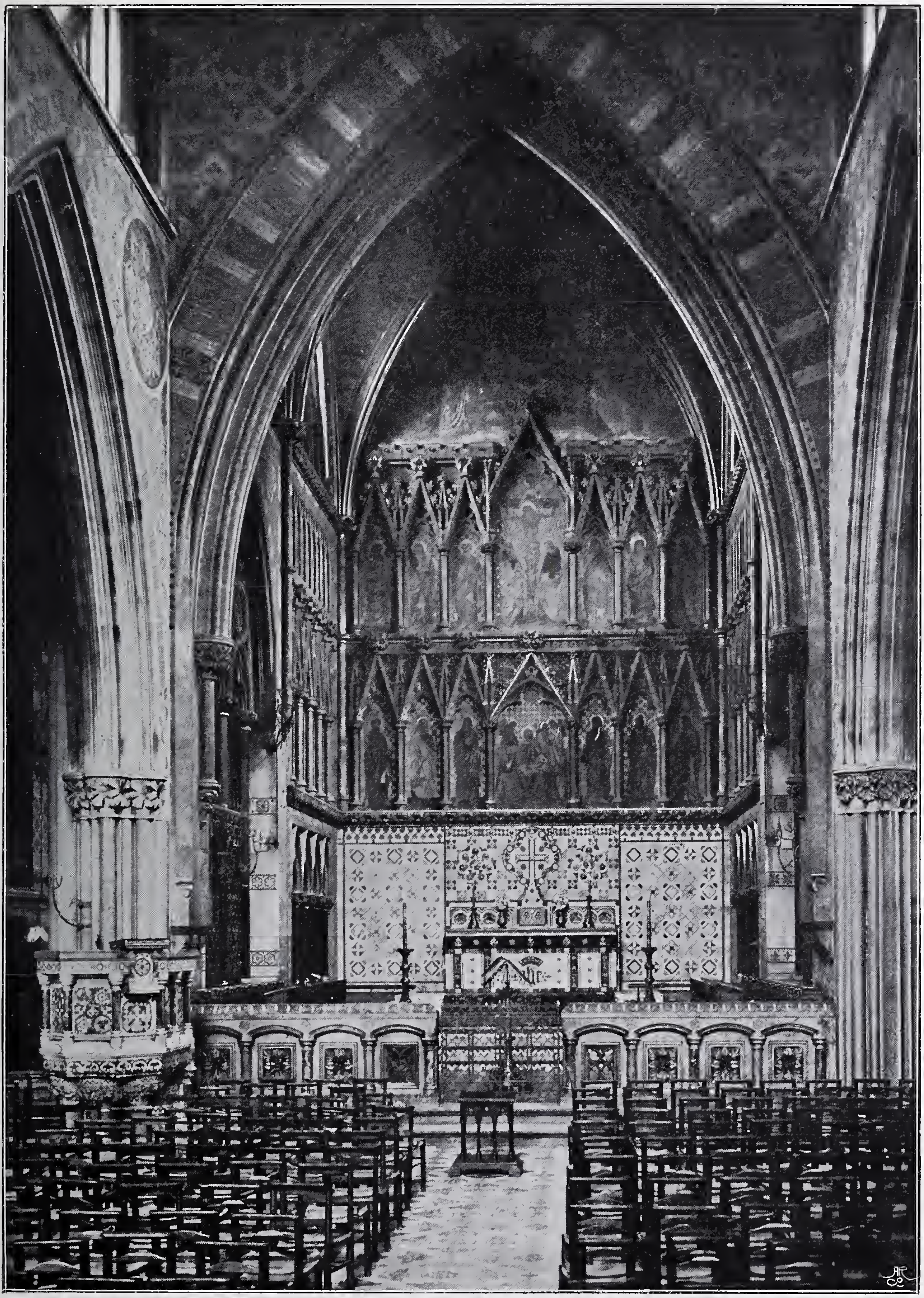
The proportions of the exterior of Keble chapel leave little to be desired, and it is not to be denied that the whole building has a quality of intense earnestness and vigour which will become more recognised as Nature's paint-brush, aided by Oxford smoke, modifies its superficial extravagances.

The chapel interior is racked by restlessness, and probably nothing but whitewash would exhibit its full dignity of design. It must remain for ever a mystery how a man of cultured eye could allow his buildings, over which—as over Keble—he had full control, to be disfigured by the amazing vulgarities in stained glass which he seemed to favour. It is interesting to compare the chapel at Keble with that of Exeter, both of them notable examples of developed nineteenth-century revivalism by acknowledged masters. In one a nightmare of colour obscures noble qualities, in the other there is little quality for colour to obscure.

In passing from Keble it should be stated in justice to Mr. Butterfield's memory that he had no hand in the unsympathetic and insipid alterations recently perpetrated. This work was executed not only without Mr. Butterfield's sanction but in the face of his protest.

The collegiate church—now the cathedral—of Cumbrae and the chapel of Balliol, Oxford (1858), are both works in Butterfield's earlier and more restrained manner which will well repay study. This is not a catalogue of his works, and to refer in any detail to his wide range of practice would be impossible in a short notice, but no reference to his life's work would be complete which did not recall his activities at Melbourne, Adelaide, Bombay, Poonah, Capetown, Port Elizabeth, Madagascar, and Perth, mostly in cathedral work. It cannot be said, however, that any of these rise to the level of his best efforts. As regards the cathedral at Melbourne, in further justice to him it must be recorded that it is his so far only as the masonry of the walls is concerned. Jealousies and difficulties raised by persons on the spot, who desired that a local architect should be employed, led to Mr. Butterfield's resignation. A disastrous and ignorant treatment of the finishings and fittings of the interior was the natural result.

Of provincial churches that at Rugby, where the spire was only completed in 1896, and was his last considerable work, is the most important and most striking. His genius



ALL SAINTS' CHURCH, MARGARET STREET (1859).

cannot be said to have lain in the successful and appropriate treatment of country architecture.

We illustrate an example of his later manner, the priory chapel at Ascot (1885), in which the very distinctive design of the east wall is to be remarked. The whole forms a characteristic and effective interior, although the exterior is at once harsh, coarse and uninteresting.

But he can never be said to have grasped, perhaps he never appreciated, many of the refinements of mediæval constructional methods, specially in masonry, one reason no doubt of the measure he meted out to those ancient buildings which passed under his heavy hand.

The collegiate chapels of Winchester and the chapel of S. Cross Hospital are well-known examples of his unrestrained daring. Even more characteristic, but disastrous, is the highly interesting church at St. Bees. Here he erected new aisles—a new east wall and a new central tower having no relation to the original or the well-marked local character. But his relentlessness is chiefly exhibited in the appalling iron screen erected in 1885 at great cost, and decked out in vivid colours, which grows from the floor throughout the whole height of the lofty chancel arch and imprisons an already too-confined choir.

At Friskney, Lincs, he would have swept away the fine screenwork merely because it interfered with his scheme, and he erected a would-be Perpendicular aisle which exhibits his want of sympathy and scholarship in dealing with the later developments of English Gothic. His lack of appreciation of the finest English schools of woodwork is indeed most marked. Like the thirteenth-century builders themselves he seems never to have grasped the intrinsic differences between wood and stone. With all their strange and often uncouth outlines, however, the intense care and thought which he bestowed upon practical considerations in connection with church fittings and his thorough knowledge of church plate demand the fullest recognition, and a study of his methods may be commended more especially to the many architects in these days who mingle a little church work with a general practice, as well as to the less thoughtful of the clergy who are ready to accept anything with the passport of a pointed arch or a quatrefoil.

Butterfield was engaged upon many important scholastic and hospital, and not a few domestic works, which exhibit his vigour and are remarkable in the clever application of features derived from ecclesiastical antiquity in new, generally logical, and often striking combinations. Heath's Court (1883), the seat of Lord Coleridge, near Ottery S. Mary, and Milton Ernest, an earlier example, near Bedford, are cases in point, but perhaps the Hants County Hospital at Winchester (1868) is one of the most remarkable. But his interiors were barren and generally devoid of interest, and it cannot be said that he ever apprehended those refinements of planning which make for restfulness and comfort to body and mind in daily use. His care, however, descended to his least significant domestic work, and he was probably the only architect who ever insisted upon having his chimney flues set up to full size throughout their whole height and upon personally correcting their lines. He was fond of recording how a lady client once complained to him of a trivial defect in a mansion he had built for her:

"Madam," he replied, "have you nothing more to say?"

The lady thought not.

"You have not complained to me, madam, about your smoky chimneys."

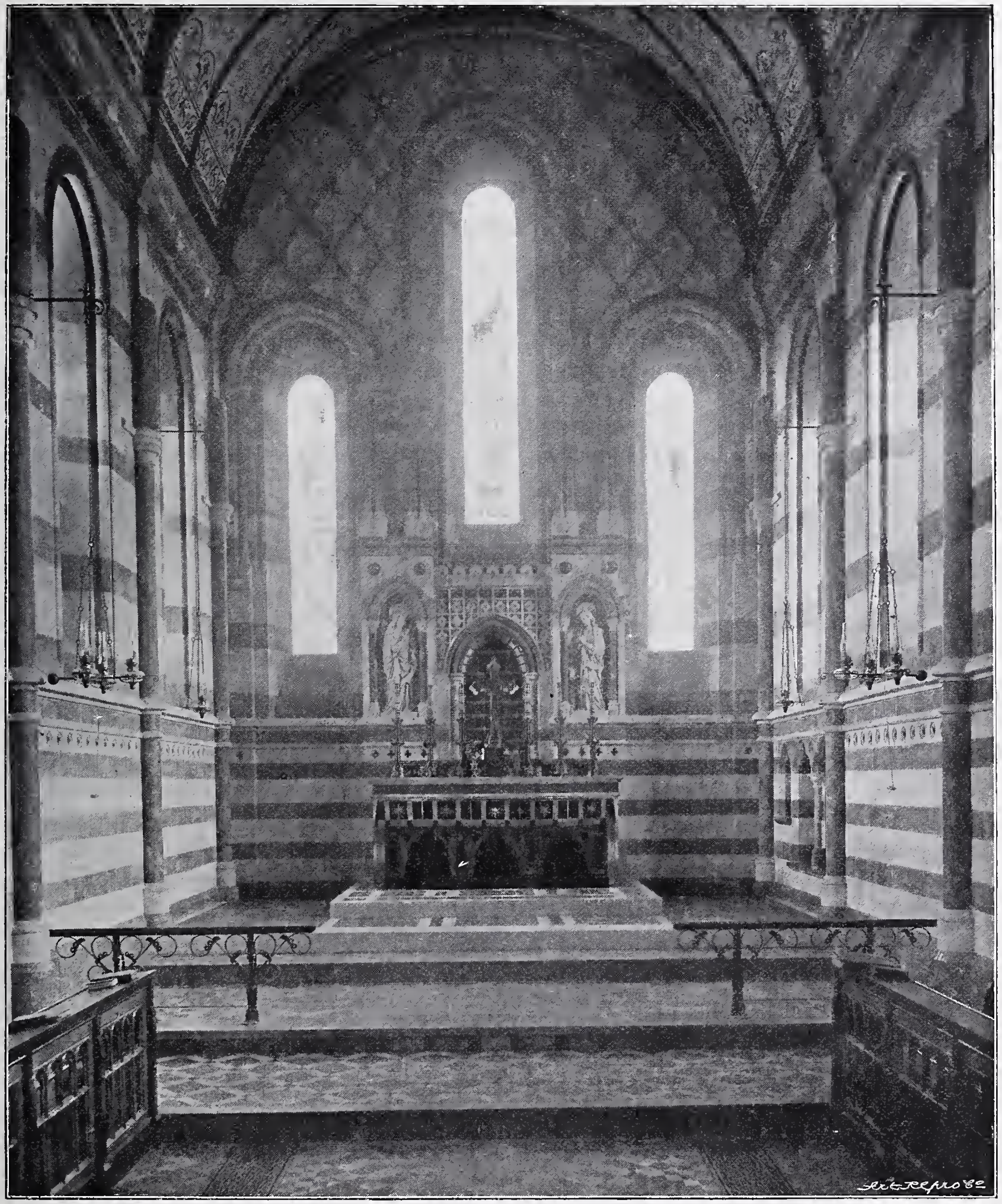
"But they do not smoke."

"And you have not thanked me for the boon?"

One can picture the man and the scene. It reads like an extract from a page of Meredith.

But let not posterity inquire too curiously! There be some things which baffle our best efforts.

Mr. Butterfield's descriptions of the country churches of England as he first studied them were as fascinating as distressing in the suggestion of the penalty of loss which has been paid for revivalism. One could not but remark the shrewd deductions he drew from his observations, as for instance the significant placing of the side porch at the western bay of the aisle of many of the great Perpendicular churches of East Anglia, his careful diagnosis of



INTERIOR OF THE CHAPEL, ASCOT PRIORY (1885).

the relative heights of towers and their relation to the buildings to which they belonged, and other kindred subjects. He refused, however, to make public his studies and conclusions otherwise than in his executed works, "living," to use his own words, "as quiet and retired a life as is consistent with my public work." He coupled a strong sense of the dignity of his calling with a wholesome horror of self-advertisement, which gave him and may well give us pause, in these degenerate days, in which he lived to see his profession degraded by the unabashed placarding of architects' names in our streets, and the intolerable practice defended—even sometimes in high places—upon the plausible but spurious grounds of public convenience or professional and private interest.

The methods of production adopted by Butterfield were laborious. Whatever his custom in earlier years, latterly his method was to revise again and again the draughtsmanship of his assistants. He knew what he wanted and did not rest until the effect he aimed at had been produced. The present writer was more than once solemnly rebuked by him for the "grave error and waste of effort" in making his own original scale drawings!

And here let it be known that eminent French architects, naturally unsympathetic with English Gothic expression or Gothic of any kind, recognise in Butterfield's work that quality of *étude* which constitutes the hall-mark of modern French design, and give it their warm admiration. Butterfield's *études* moreover were, apart from his woodwork, based upon the proper constructional qualities of the material with which he was dealing, and he never fell into the weakness of the French school, which is apt to despise material and content itself with *étude*, bordering sometimes upon emasculation.

Although so divergent in individual expression it is possible to class together the three greatest masters of the revival, Pearson, Mr. Bodley, and Butterfield, in this fine quality of *étude*, and to differentiate from them three other equally distinguished masters of the same school, Pugin, Scott, and Street, in whose works it seems so often to seek.

Pearson, Ruskin, Butterfield, all intensely different in sympathies, imagination and influence, have recently passed in quick succession to the bourne. Who shall say that their best is not part of the English heritage, by which three strides have been taken onwards towards the final achievement?

WORKING-CLASS DWELLINGS.

By John Honeyman, R.S.A., Henry Spalding [*F.*], W. E. Wallis [*A.*], and Owen Fleming [*A.*].

Read before the Royal Institute of British Architects, Monday, 2nd April 1900.

I. EFFECTS OF INJUDICIOUS LEGISLATION. By John Honeyman, R.S.A.

ABOUT twenty years ago the late Sir James Watson, at one time Lord Provost of Glasgow, read a Paper here on the work done under the City of Glasgow Improvement Act, and referred to the building regulations then in force in Glasgow. A large number of members of the Institute and others specially interested in the housing of the working classes were present at the meeting, and in the course of the discussion which followed the reading of Sir James's Paper, I asked those conversant with the subject if it would have been possible to erect the improved dwellings which had been erected in London under such conditions as to number of stories, height of ceilings, width of passages, &c., as those which had been referred to, and the unhesitating reply of Mr. Barry and others in a position to speak authoritatively was, that it would have been impossible. The significance of this fact was not recognised by Sir James, nor has it been recognised by his successors in office, or by civic authorities throughout the country, who have been for many years past endeavouring—to a large extent successfully—to obtain from Parliament power to multiply conditions and restrictions seriously affecting the cost of dwellings.

Local authorities seem entirely to ignore this consideration, and also the fact that the more their regulations increase the cost of erecting dwellings, the higher must be the rent which the occupants of these dwellings will have to pay. Now this latter fact is of the very first importance in connection with the housing of the working classes generally, and more particularly in relation to that section of the working classes which we appropriately designate the poor. It is quite evident that, if the blocks of dwellings erected in London by the Peabody Trustees, Sir Sydney Waterlow, and others had been prohibited, it would have left a vast gap in the supply of healthy and convenient workmen's dwellings, which it would have been hardly possible to supply by any other means. And the prohibition of such dwellings in other large cities is a serious evil. It is no doubt true that in these blocks the ceilings are low and the buildings high, but it has been proved that the houses are perfectly healthy, and that although so many families are housed in a comparatively small area, the death-rate is lower than the average death-rate of London.

Where ground is dear it is absolutely necessary that it should carry a number of stories if the rents are to be moderate, and in that case the height of ceiling is an important point. But in Manchester, Glasgow, and most other large cities, the minimum height of ceiling prescribed is greater than that which has been found most suitable for the improved dwellings in London. Then, again, if a large number of dwellings is to be erected on a limited area, the number of stories superimposed must not be restricted as it is by the regulations of most provincial towns. For example, according to the City of Manchester Building Regulations (1868), no building shall be erected of a greater height than two stories, exclusive of the basement, in any street which is less than thirty-six feet wide, or of a greater height than three stories, exclusive of the basement, in any street which is less than forty-eight feet wide. It will be easily seen that any such restriction as this in central localities of great cities must make the erection of dwellings at moderate rents impossible.

Now if such regulations so seriously affect the class of dwellings which may be let at from £12 to £20 per annum, how much more serious is the consequence of their effect on the rental of houses intended for the poorest class. It is they who most need our consideration. There is comparatively little difficulty with the better class of artisans; in most places there are plenty of good houses for men with good wages; but the great and growing difficulty which we have to face is, the difficulty of providing wholesome houses for unskilled labourers and the poor who do not earn more than a pound a week. And it is a mistake to praise the London County Council and the corporations of other cities for erecting artisans' dwellings, while they do absolutely nothing towards providing suitable dwellings for the poorest class. If there is any excuse at all for their interference with private enterprise, it is to be found in the circumstance that the erection of houses of, say, £6 per annum and under is found now to be commercially unremunerative. That private enterprise, therefore, owing to the increased cost produced by the regulations of the corporations themselves, is obliged to quit the field and to give up any attempt to provide a sufficient number of these cheap dwellings. It was quite evident that when corporations commenced building houses for the working classes, the danger of unequal competition would deter private individuals from engaging in the same work, and that the effect of this would be to interfere chiefly with the erection of the cheapest class of houses. The inevitable tendency of such action by corporations must be to fasten upon them the whole responsibility of supplying low-rented houses, as they could not expect any assistance, either from associations or from private individuals, who required a fair return and ordinary security for their investments. Already several corporations have, by their engaging in building operations, succeeded in scaring private enterprise; but they have hitherto failed to recognise their consequent responsibility. A good example of this may be found in the City of Glasgow, where the result of the corporation building operations is precisely what might have been expected. During the last ten years not one single house of £6 and under has been erected by private enterprise, but, on the other hand, during the same period, the number of such houses has been considerably reduced, owing to clearances made by railway companies, and by the closing of insanitary dwellings by the corporation. During the same period the total number of houses at £6 and under erected by the corporation was seventy-nine. Now, assuming that the average annual increase of the population is over 10,000—a very moderate computation—the total addition during the past ten years would be 100,000, and the number of dwellings required for the housing of these people in addition to those previously inhabited would be about 20,000; and if the authorities are to make any headway against the degrading system of overcrowding now prevalent, a considerable number of these houses, probably about 2,000, should have been erected of a character suitable for the accommodation of the poorest class. In similar proportion about 200 of such houses would require to be provided annually. If, then, the Corporation, by their building regulations and their threatened competition, prevent the erection of such houses by others, they are bound to supply the deficiency themselves; and the task which lies before them now is, first, the immediate erection of 2,000 houses of the cheapest class, and secondly, the erection of at least 200 similar houses every year. As we have seen, they have made no attempt to do anything of the kind. Like other municipal bodies, they have been neglecting their paramount duty in this case, and gaining popularity by the erection of a class of dwellings which are being abundantly provided without their assistance. This is made evident by the latest returns of the Glasgow City Assessor, which show that in 1898 the number of houses—chiefly artisans' dwellings—returned as unoccupied was 4,642.

It may be said that the poor always can, and in fact do, find accommodation. Yes; but how? Simply by clubbing together and making one house serve for two or more families. That is the only alternative the poor man has if he cannot obtain a house proportionate to his means; and it is more dangerous to the welfare of a community than high dwellings and low ceilings, hollow squares, narrow streets, and a great many other things which civic authorities are so careful to guard against.

Nothing, indeed, can be worse than this method of disposing of the poor. It is, in fact, the great source of moral, social, and sanitary pollution, and it is evident that the only way to put an end to this state of matters is to provide the poor with houses which they can afford to pay for; and that, I believe, can never be done, either by corporations or others, in a way which shall be commercially remunerative without some relaxation of building regulations affecting the dwellings of the poor. In houses of that kind we must be content with what can be proved to be essential, and avoid what is merely desirable.

But if the ordinary up-to-date conditions and restrictions imposed by civic authorities suffice to put a stop to the erection of cheap houses, what is to be said of the prohibition of houses of one apartment? We have recently seen certain burghs in England highly praised for having obtained power to prevent the erection of houses of one apartment within their bounds. But this action, so far from being creditable to its authors, merely demonstrates their ignorance of the conditions under which the urban poor must live; and the only conceivable excuse for their conduct is, that they have no poor to provide for. For a considerable proportion of those who earn less than twenty shillings per week a house of one apartment is a perfectly suitable dwelling—for many it is the most suitable dwelling, both on economical and sanitary grounds. For example, an aged couple, whose days for active employment are past—the man feeble or perhaps bedridden, the woman still able to do odd jobs in the neighbourhood and to keep her house tidy, assisted perhaps by small contributions from sons or daughters in service, their whole income barely sufficient to keep them from the workhouse—are very much better in a house of one apartment than in one of two: for first, they have less rent to pay; secondly, they have more elbow-room if the house covers nearly the same area as if divided; thirdly, they have more comfort—the old man, even if bedridden, sees what is going on, and enjoys the companionship of his wife; fourthly, the conditions are more wholesome, for the single room, with its necessary fire, is much better ventilated than a stuffy little bedroom without a fire or any proper means of ventilation. Almost the same remarks apply to a great variety of the poorest class, who are just able, and no more, to pay their way and maintain their independence. The young labourer, for example, who like most of his class has married imprudently, before he could earn more than a living wage for himself, while his children are young, nothing can be more suitable for him than a house of one apartment. The soldier's wife or widow, with narrow means and perhaps "a kid or two"; the poor old solitary widow struggling to maintain herself by cleaning business premises or other precarious employment; young orphans or young women living together for mutual protection and companionship; people in reduced circumstances, and many others, well known to everyone familiar with the conditions of the poor, require single-roomed houses in preference to any other. And to compel them to have more accommodation than they need or are able to pay for, is simply to offer a premium on the prevailing objectionable system to which we have just referred—the overcrowding of houses by the introduction of lodgers. The prohibition of single-roomed houses, therefore, is not a step in the right direction, deserving of commendation, but another hindrance in the way of our great difficulty—the supply of houses which the poor can afford to pay for. Of course, we do not mean to imply that there are not circumstances in which houses of two apartments are not greatly to be preferred to houses of one; but they are necessarily more expensive, and those who must have them must pay more for them; but that is no reason why we should debar the poor—who are, in fact, better in a single apartment—from gaining an advantage of so much consequence to them as a reduction of rent.

It has been said that a fair proportion of income to be devoted to rent is one-sixth; but that only applies to middle-class incomes. Artisans cannot afford a sixth, and the lower we go in the social scale the less can a man afford in proportion to his income, and we may perhaps assume that the class we are specially referring to cannot be expected to pay more than a tenth at most. We cannot expect a labourer with £60 per annum to pay more than £6 for his house, and those with less than £60 (and how many are there?) must pay less. Now what seems to be entirely overlooked by recent framers of building regulations is that all the additional expense which such regulations entail must be borne by the poor people who occupy the buildings affected; and if the tendency of such regulations is to increase rents to an extent which the poor cannot pay, the alternative may be forced upon our authorities either to relax these regulations or to supply the houses at unremunerative rates; but in adopting the latter alternative they would not only perpetrate an economic blunder, but an act of injustice to those who had no share in the benefits bestowed on the poorest, and in some instances the least deserving, of their fellow-citizens, for which they are nevertheless compelled to pay. It may be said that the same objection may be taken to the Poor Laws, but the cases are in no respect parallel. Parish councils do not create paupers, the pauper is quite an independent production; he is destitute, diseased, it may be, and utterly helpless, and, being unable to pay for his support, he must be supported. The houseless poor, however, are without houses because our civic authorities insist upon conditions and restrictions which, as we have seen, prevent a supply of houses being provided; they are therefore themselves responsible for the conditions of the houseless poor, and it seems to be their duty as the only way out of the difficulty either to modify these conditions and restrictions or to exempt such houses from their operation. The need of some such liberty being allowed has evidently at last dawned on the civic mind, and in the Glasgow Building Regulations Bill, 1900, before the present Parliament, Clause 133, part 14, provides *inter alia*, "The Dean of Guild may, with the consent of the Corporation (whose consent shall only be given upon a report in writing by the Medical Officer and the Master of Works that adequate provision is made for air, ventilation, and drainage), relax or modify to such extent as he may think proper all or any of the provisions of this Act, or of the Act of 1866, or of any by-laws made in virtue of this Act, in any of the cases following, viz.: Blocks of labourers' dwellings containing more than twenty-four separate dwelling-houses."

This is an excellent provision, and the power sought may probably be safely entrusted to the municipalities of our large cities which have private Acts, but it is questionable if it might safely be entrusted to others without the sanction of a superior independent authority.

The discretionary power desired is necessary not merely to give private enterprise a chance, but also to enable the authorities themselves to erect the houses at a lower rent than they can do if they adhere strictly to their own building regulations.

This might possibly have the very desirable effect of enabling associations or individuals to co-operate with the authorities in providing the much-needed cheap dwellings.

Most of the regulations affecting low-rented houses are (under various Acts) in force in the country and small burghs as well as in the larger towns, but there the restrictions on the use of building ground are comparatively of little importance. Near the centre of large cities, restrictions on ground, such as limiting the number of stories requiring large free spaces in front of windows, prohibiting the return of blocks at corners of streets, leaving portions of a site fronting a street unoccupied in order to secure ventilation of the back yards, and in these and other ways preventing such a number of dwellings being erected on the site as might with due regard to sanitary consideration be placed there, tend most directly to increase rents. The time at my disposal, however, will not allow me to go into this subject more in detail. Apparently so simple, it is in reality so complex and far-reaching that it would be easy to occupy a whole evening in its elucidation.

It should not be forgotten that the provision of low-rented houses must not only be sufficient to accommodate what may be called the respectable and thrifty poor, but also the families of the dissolute, the drunkard, and even the criminal—all in short who cannot pay much for a house and who must not get more than they can afford to pay for.

Not till some adequate provision for the housing of this class of the population is provided can the laws against overcrowding be rigorously enforced. At present the practice, unhealthy and demoralising as it is, must be tolerated; the householder who cannot get a house to suit his or her means must take in lodgers—he knows no alternative. I know myself of women engaged in cleaning offices and the like, unable to get a house in the locality where their work lay at a sufficiently low rent, and obliged to take a house of two very small apartments, who have regularly four and frequently six lodgers at a time; and here I may remark that it is out of the question to suppose that people of this class can be accommodated in the suburbs or the country, even if they received season-tickets for nothing. They must be near the place where their precarious living is earned, a circumstance which adds greatly to the difficulty of providing them with cheap dwellings—a difficulty which there is no need to increase by injudicious legislation. I am not an advocate for municipal authorities undertaking the erection of artisans' dwellings of any class; but I would repeat that, if they do so at all, they must face the task of doing all that is required without any assistance from private parties. And if they must undertake the much-needed work, and at the same time secure such a return as will suffice to pay interest on the outlay, the community may be satisfied. And it can safely be said that no municipality can engage in any work more necessary for the social and moral well-being of the community, or more far-reaching in its beneficial consequences.

II. BLOCK DWELLINGS: THE ASSOCIATED AND SELF-CONTAINED SYSTEMS.

By Henry Spalding [*F.*].

WHEN the Secretary called upon me to say the Council would be glad if I would read a Paper on "Artisans' Dwellings," I at first declined, fearing it would be very difficult, if not impossible, to find anything new to say upon this subject. I also suggested that members who had had more experience than I have had were better fitted to speak on the matter. Hearing, however, that some had declined to do so, I consented, and promised to read a short Paper, which I hope may be useful to some here this evening.

For many years past I have taken a deep interest in the housing of the working classes, and some thirty-five years ago acted for the West London Central Dwellings and Improvement Society. This Society bought up rookeries in Drury Lane, Parker Street, and elsewhere, and tried to convert these old insanitary houses into healthy homes for the poor who abounded in that district. We bought up Bennett's Court in Drury Lane, and there I obtained my first experience in trying to house these people in a satisfactory manner.

I found I had to specify some peculiar things in order that the Society might not have the premises taken away bit by bit by the tenants. For instance, the wood skirtings had to be taken up and cement skirtings put in their stead, as the tenants removed the former to light their fires. All lead pipes had to be avoided, and iron substituted, as that could not be so easily removed, and was, moreover, of little value. Then about nineteen years ago I built a block of tenements each consisting of three rooms and scullery. The plan is, I think, economical, and the tenements always let at good rentals. Since that time the housing question has come more and more to the front, until at last it has become the burning problem of the day. Much has been done by public bodies and private individuals to lessen the evils of overcrowding, but up to the present time we do not seem to have completely solved this difficult problem.

To many people the idea of attempting to re-house the working classes in block buildings at all is a mistake. But in view of the many difficulties that arise, if the workman is to live far from his place of work, I fear that two-storey cottages and gardens, however attractive in theory, are in many cases impossible at the present time. Perhaps in the future, when the working hours are shorter, and the means of transit cheaper and easier, they will become a great factor in the solving of the question.

Now whatever degree of success may have been reached with this class of buildings as schemes for housing the working classes—and in my opinion it has been very great—as re-housing schemes they have signally failed. Slums have been swept away and the inhabitants have gone to overcrowd other places, while quite a different class of people have occupied the new buildings. We seem to have taken it for granted that if we design the tenements on the most approved methods of hygiene the working classes will adapt themselves to their new surroundings. I do not wish to underrate the importance of hygiene, but hygiene is not valued by the working man, and so for its advantages he does not care to pay. For example, if we provide a system of fresh-air inlets and outlets to his rooms, we shall find that in a very short time they will all be blocked up. I fear it is not much good to argue with the working man about sanitation or ventilation. He does not appreciate them at present, though with the advance of education he will doubtless do so. We have already made one concession in this respect; some years ago it was the custom to provide baths in many of the dwellings, now it is seldom done, and considering that public baths are accessible in most neighbourhoods, I think it is an open question whether these should be provided in these buildings. Also, it is no great hardship for people of this class to share a scullery with another family; they have for the most part been used to it all their lives, living as they do in houses with sanitary accommodation for one family and with rooms let to three or four. The first thing, then, is to find out the mode of living and the habits of the working people, for unless we give them what they are accustomed to and can afford, we shall find that the class of people for whom we intended to provide will not live in our buildings.

Two of the greatest difficulties that face us at the present time in all our large towns are the ever-increasing cost of building, and the difficulty of obtaining land suitable for the erection of dwellings at a reasonable price, both these producing high rents. What we have to aim at, therefore, as architects, is the practice of the most rigid economy in planning and fittings.

And this of course applies to the designing of the elevations also. We cannot as a rule spend much money in ornamentation of any kind, but by a judicious use of the materials at our disposal a good effect can always be obtained.

Block dwellings may, broadly speaking, be divided into two classes:—

(1) Associated dwellings, in which the offices are common to two or more tenements, or if separate, are placed in blocks away from the living-rooms, and approached from the staircase or corridors.

(2) Self-contained tenements, in which all the offices are inside the front door.

The associated dwellings can be made the more economical, and should therefore be used where the tenants will be of the poorest class. One objection to having common sculleries and w.c.'s is that a certain amount of supervision is necessary, as when two or three persons are responsible for the cleanliness of a place, the result is not all that can be desired. On the other hand, of course, if separate offices are provided for each tenement, and these are all placed in one block, accessible from the corridors, the saving is not so great. In the associated system corridors must, of necessity, take up a great deal of space, and these, of course, are a source of expense for which there is no return in rent.

On the whole, therefore, I am in favour of the self-contained tenements, provided the class of tenants for which the buildings are erected can afford to pay the increased rent. The class of tenants desired must, of course, govern the choice of plan. Tenements may consist of one, two, three, or even four rooms—usually, I think, two or three. The single room tenements are, of course, on the associated plan.

In the dwellings for the very poor classes, it is not possible to provide a scullery, and the sink has to be placed in the living-room. Where a scullery is provided it is a great advantage to place a copper in it, as thus the difficulty of providing washing accommodation is got over satisfactorily; but in this case a certain amount of balcony space is necessary for drying purposes. These balconies seem to be greatly appreciated, although they are not absolutely essential. If a copper is not provided, laundries must be put elsewhere. These may be conveniently placed in the courtyard or else in the attic story. Another way is to provide separate laundries to every five tenements, to be used by the tenants on separate days; but this, of course, is not so economical. There are other buildings which may be placed in the courtyard with advantage, such as workshops, where the men can do small repairs, some place where they can store their tools, barrows, &c. It is also an advantage, especially in dwellings of the associated type, to provide urinals and w.c.'s there also. In some of the buildings of the Guinness trust, an arrangement is made by which the tenants can at stated hours in the day procure boiling water, and this, I believe, is greatly appreciated.

In both systems of planning, the associated and the self-contained, the tenements may be approached direct from the staircase or from a balcony running the entire length of the block, with two or three staircases according to the number of tenements. Some people object to this latter method on the ground that these balconies obstruct the light and direct sunshine, but I do not consider this a serious objection, as the size of the window openings can be proportionately increased where these look on to a balcony. Another objection sometimes put forth is that the balconies in the upper stories are necessarily very much exposed. In the dwellings erected in 1893 by the Manchester Corporation, the tenements are arranged round a quadrangle, with the balconies looking in to it, and these are thus sheltered to some extent.

Perhaps I may be permitted to give a short description of one of these blocks—that in Oldham Road. The site on which these buildings stand contains a superficial area of about 7,832 square yards, of which about 3,430 square yards are covered by the buildings. The site is rectangular, and the buildings are arranged round the four sides of it, leaving in the centre a spacious recreation-ground, having a superficial area of about 4,402 square yards. This is

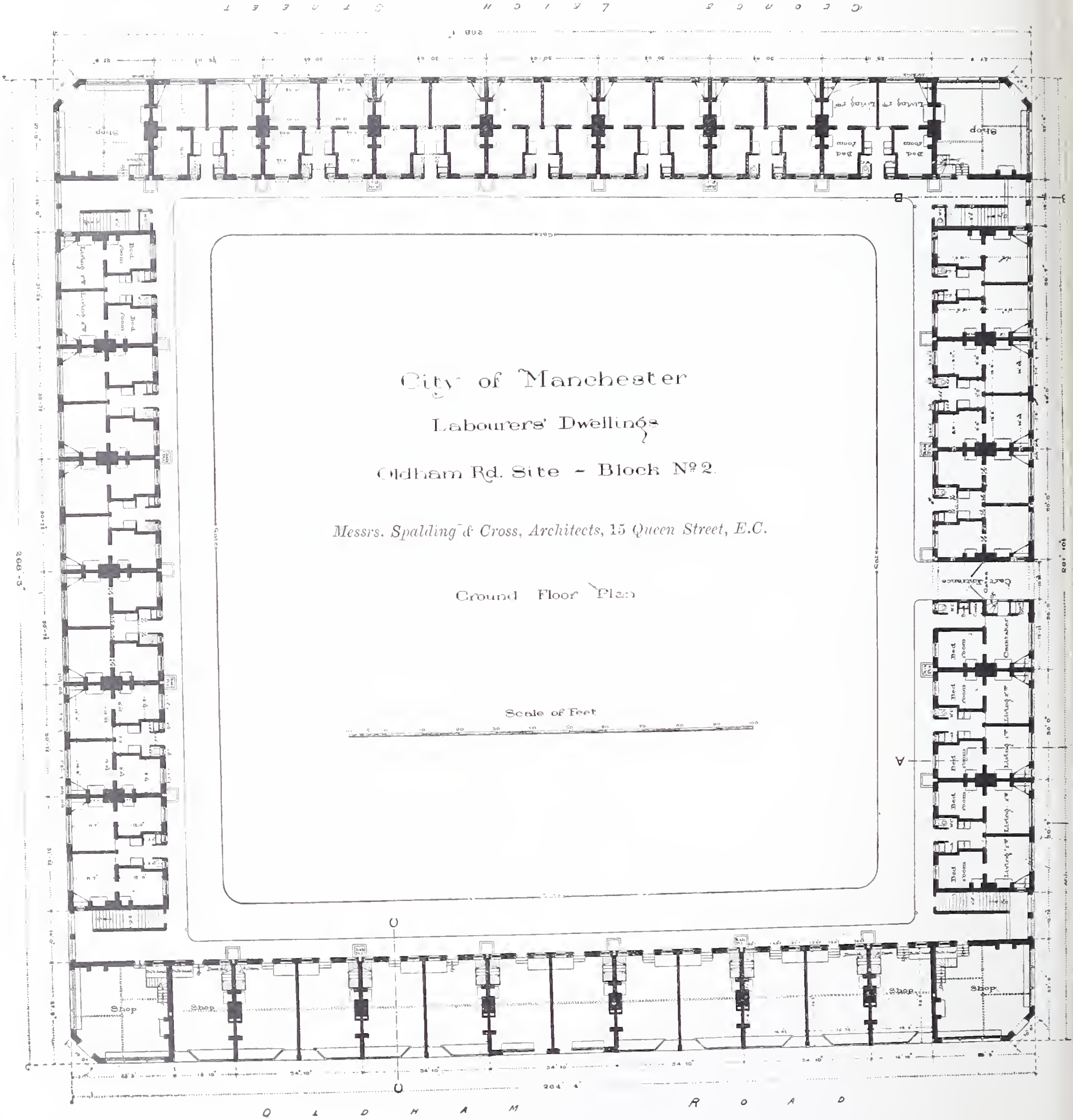


FIG.

enclosed and separated from the cartway and footway by means of a light iron fence, and forms a safe playground for the children. The whole of the ground floor of the building facing Oldham Road is reserved for shops, and these are so planned as to be available either for the occupation of tenants residing in the building, or for those who, residing elsewhere, would merely utilise them as lock-up shops. In all cases good cellarage accommodation has been provided for use in connection with the shops.

The public staircases are immediately accessible from the street entrances and from the courtyard, and they afford direct communication with the external balconies and the laundry departments in the attic floor. The staircases being open, a good blow through is secured at each corner of the quadrangle, so that the air there is well circulated. The caretaker's office and rooms immediately adjoin the cartway entrance fronting Spittal Street, in order that this official may have full control and command of the vehicular traffic connected with the dwellings.

The block is divided into one- and two-roomed tenements. The average size room for a one-roomed tenement is about 130 square feet. For the two-roomed tenements, the living-room is about 174 square feet and the bedroom about 108 square feet. Through ventilation is obtained in all the tenements. All the rooms are 9 feet high. It is interesting to compare these areas with those adopted in the buildings erected by the London County Council. The size usually adopted in their buildings is about 144 square feet for the living-room and 96 square feet for the bedroom, although in the recent competition the sizes asked for were not less than 100 feet for the bedroom and not less than 155 square feet for the living-room.

In the Manchester buildings, each tenement is provided with a well-ventilated food-store and also a coal-store. A w.c. and a washing-up sink are provided in the entrance lobbies for the joint use of the occupants of each of the two tenements to which these common lobbies give access. Dust-shoots are provided throughout, but I have come to the conclusion that the method adopted in many of the London County Council buildings for the removal of dust is preferable. There each tenant has a dust-pail, and there is a common dust-bin in the yard. The laundries in this block of buildings are placed in the attic stories, and are accessible from the public staircases.

The schedule of accommodation in the Oldham Road block comprises sixteen shops and cellars, four laundries and drying-rooms, 237 two-roomed tenements and forty-eight single tenements. The double tenements are for families of four or five persons and the single tenements for one tenant.

In the plans which obtained the first premium for the proposed dwellings on the Millbank Estate, through ventilation is not only obtained in the living and bed rooms but also to the staircases, behind which are placed the balcony yards, and although the working classes, like some others, may not appreciate the value of fresh air, I think it is all-important that their rooms should be so planned that they can be thoroughly well ventilated and fresh air obtained by cross ventilation from the front to the back of the house. The children of the working classes are now being well educated, and no doubt they will appreciate well-planned and well-ventilated tenements in the future.

It will be seen by the plans [pp. 258–59] that each tenement is approached by means of the general staircase, from the landing of which access is gained to the private entrance and lobbies of the various self-contained tenements, consisting of a living-room having a floor area of not less than 160 feet superficial, overlooking the street and fitted with a dresser with two shelves, potboard and cupboard, also a self-setting range for an open or close fire. A bedroom or bedrooms, having a minimum floor area of 106 feet superficial, fitted with a hanging cupboard for clothes and a mantel register stove. A scullery, overlooking the courtyard and disconnected from the living and bed rooms by the ventilated entrance lobby

Fig. 2.—London County Council Proposed Dwellings, Millbank Estate, Westminster.

First Premiated Design.—Messrs. Spalding & Cross, Architects, 15 Queen Street, E.C.

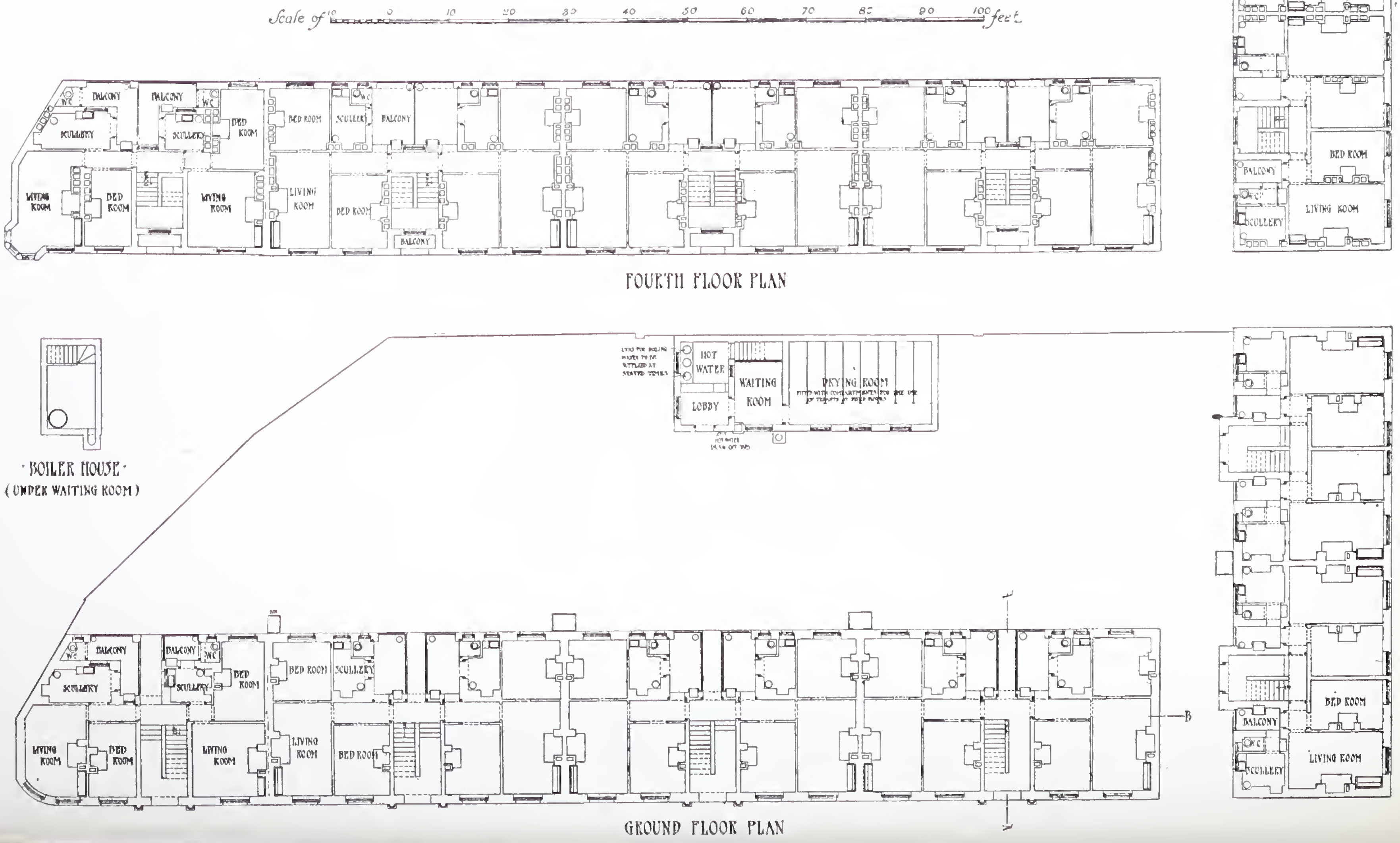
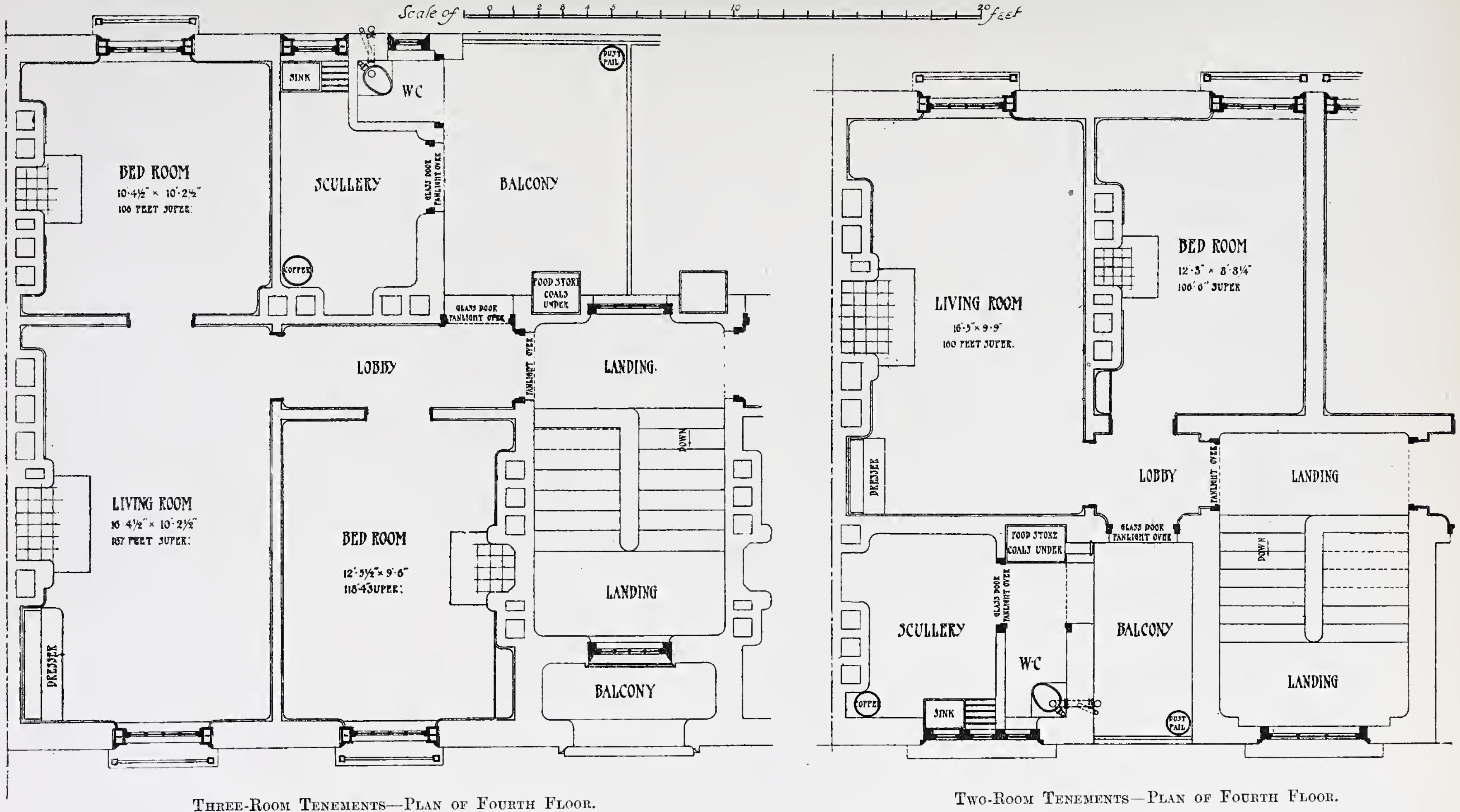


Fig. 3.—London County Council Proposed Dwellings, Millbank Estate, Westminster.

First Premiated Design.—Messrs. Spalding & Cross, Architects, 15 Queen Street, E.C.



Three-Room Tenements—Plan of Fourth Floor.

Two-Room Tenements—Plan of Fourth Floor.

and the adjoining balcony, containing a floor area of not less than 45 feet superficial, and fitted with a stoneware sink, a draining-board, a plate-rack, a six-gallon copper, and an open cottage range, so that, if thought desirable, the scullery could be used as a kitchen. The scullery, the water-closet, the galvanised iron coal-box, the food-store, and the dust-pails, &c., are all accessible from the balcony, to enable any necessary sanitary inspection or replenishment of stores to be made without disturbing the privacy of the inmates, and to allow of any household washing and clothes-drying being carried on without discomfort.

I have not had much opportunity of studying buildings of this class which have been erected abroad, but from all I can gather they are not much in advance of us in this respect. I am informed that sixty-two blocks of buildings of this class, divided into 992 tenements, have been erected at Spezia. These buildings are both financially and socially a great success. But they can form no comparison with buildings in London and other large towns, owing to the very favourable circumstances in which they were erected. Labour is cheap there, and the site was acquired on very low terms, and in consequence a flat containing three rooms and a kitchen can be obtained for about 11*s.* 6*d.* a month.

Much has been said against erecting these large blocks of buildings, but at any rate they are sanitary, and far more healthy than the houses usually occupied by artisans. This is certainly my experience as an owner of dwellings of this class, and the recent report of Dr. Saunders, the Medical Officer of Health for the City of London, confirms this view. According to his figures we find that during the five years 1894 to 1898 the average death-rate in five blocks of these dwellings in Houndsditch owned by the Corporation is 12 per 1,000, whilst for London during the same period it was 18 per 1,000.

Objection has also been taken on the ground that herding so many people together favours immorality, but my experience leads me to a different conclusion, and Dr. Saunders reports that during the same five years there was only one illegitimate child born in these dwellings, and the mother is reported to have been of weak intellect and a mere child. The birth-rate is always high in these buildings, being 43 per 1,000 for 1898 as against 16 per 1,000 for the whole of the City.

I think, therefore, we may feel sure that if we provide better dwellings for the working classes, they will not only conduce to the health and comfort of the people but will also tend to make them better and more useful citizens in the future. The upper and middle classes are now beginning to live in flats, and I do not think it is a hardship for the working classes to do the same. In Scotland this mode of living has been in vogue for centuries, and when our artisans get more accustomed to live in flats, I believe they will like them more and more.

III. THE LATER PEABODY BUILDINGS. By W. E. Wallis [*A.*].

YOUR Committee have done me the honour of asking me to give a short description of the buildings erected by the Peabody Trust, especially in connection with the planning.

I do not propose to say much about the earlier buildings. From the first they have invariably been erected in blocks generally five stories high, placed in such a way as to give as much light and air as possible to the windows, while at the same time leaving good spaces for play-grounds. The play-grounds are paved, either with concrete or with tar paving. In all cases except one, the entrances to the blocks are from these play-yards. The sites are enclosed by dwarf walls and railings, and care is taken to keep out hawkers and objectionable characters, so that the tenants may enjoy as much peace and quietness as possible.

The amount originally left by Mr. Peabody was £500,000, and his object was to provide good and wholesome dwellings for the poorer working classes, and he thought, with care, such dwellings could be erected as could not only be let at considerably lower rents than those charged by the ordinary landlord, but would also return a fair percentage on the capital expended. The amount spent on land and building up to the end of last year was about £1,300,000, so that I think it may be fairly claimed that Mr. Peabody's object has been attained. The average weekly earnings of the head of each family in residence is £1 3*s.* 1*d.* The average rent of each dwelling is 4*s.* 9¾*d.* a week, and of each room 2*s.* 2*d.* The rent in all cases includes the free use of water, laundries, sculleries, and bath-rooms.

The earlier blocks contained over a hundred rooms each, and were designed on the old corridor plan with an open stone staircase in the centre, and sculleries and w.c.'s at each extreme end, and large laundries and enclosed drying-grounds on the top story. These blocks were six stories high. The corridors were very dark, and the plan was a very costly one. About twenty-five years ago an entirely new plan was adopted. This provided ten rooms on each floor besides a laundry, two w.c.'s and two sculleries, and the staircase, which was central, was enclosed. After this, another plan was adopted which gave an extra room on each floor with the same other offices, but the staircase was in one flight in the centre of the building, and as it only got a side light from the sculleries at each end, it was too dark. Another plan was then adopted; the laundry was provided on the top floor, and good light was obtained for the staircase, which, however, was still in one flight.

The accompanying plans [pp. 262–63] are what we have adopted, with slight variations, for some years past, and I think are better in every way than any preceding them. The blocks are five stories high except the centre portion, which contains the laundries and enclosed drying-room, which is six stories high. There are ten rooms on each floor, with two sculleries and two w.c.'s in well-ventilated corridors outside the dwellings. The rooms are divided into dwellings of one, two, and three rooms, and are let at average rents of 3*s.*, 5*s.* 6*d.*, and 6*s.* 6*d.* respectively. The laundries are fitted up with four sets of coppers and washing tubs with water laid on to all. The windows are louvred and the floors asphalted on concrete. In planning, simplicity and comfort have been aimed at, and useful proportions for the rooms kept in view. Very little space has been wasted in corridors and passages, and ample light has been secured to all parts. The rooms are all 8 feet 6 inches in height. The living-rooms are 13 feet 6 inches by 11 feet 9 inches, and the bedrooms 13 feet 6 inches by 9 feet 9 inches. The single living-rooms are 14 feet 6 inches by 12 feet 6 inches.

Each living-room contains a range or kitchener 3 feet wide with oven and boiler, two cupboards, one of which is arranged at the bottom as a coal bunker. The bed-rooms contain a small register stove and one cupboard fitted with hooks. Nails are not allowed to be driven into the walls, but picture rails are provided in all rooms. Small zinc hoppers are provided in the external walls of rooms for ventilation, and fresh air is admitted to each fireplace through zinc tubes fixed in the floors between the jambs of the mantel and an air-brick in external walls.

The floors of rooms are ordinary boarded floors and not fireproof. The ceilings are ordinary lath and plaster. Throughout the buildings the walls are of brick, rendered on the internal faces with Portland cement which is afterwards distempered. The sculleries and w.c.'s are provided in the corridors outside the dwellings, as we consider this far better than making the dwellings self-contained. Being outside they can be inspected at any time without annoyance to the tenants, and should any repairs be required they can be executed without any trouble. Again, there is the advantage that when any of these are under repair the tenants can use those in the other corridor without having to invade their neighbours' dwellings for this purpose. Stoneware sinks are used in the sculleries and County Council

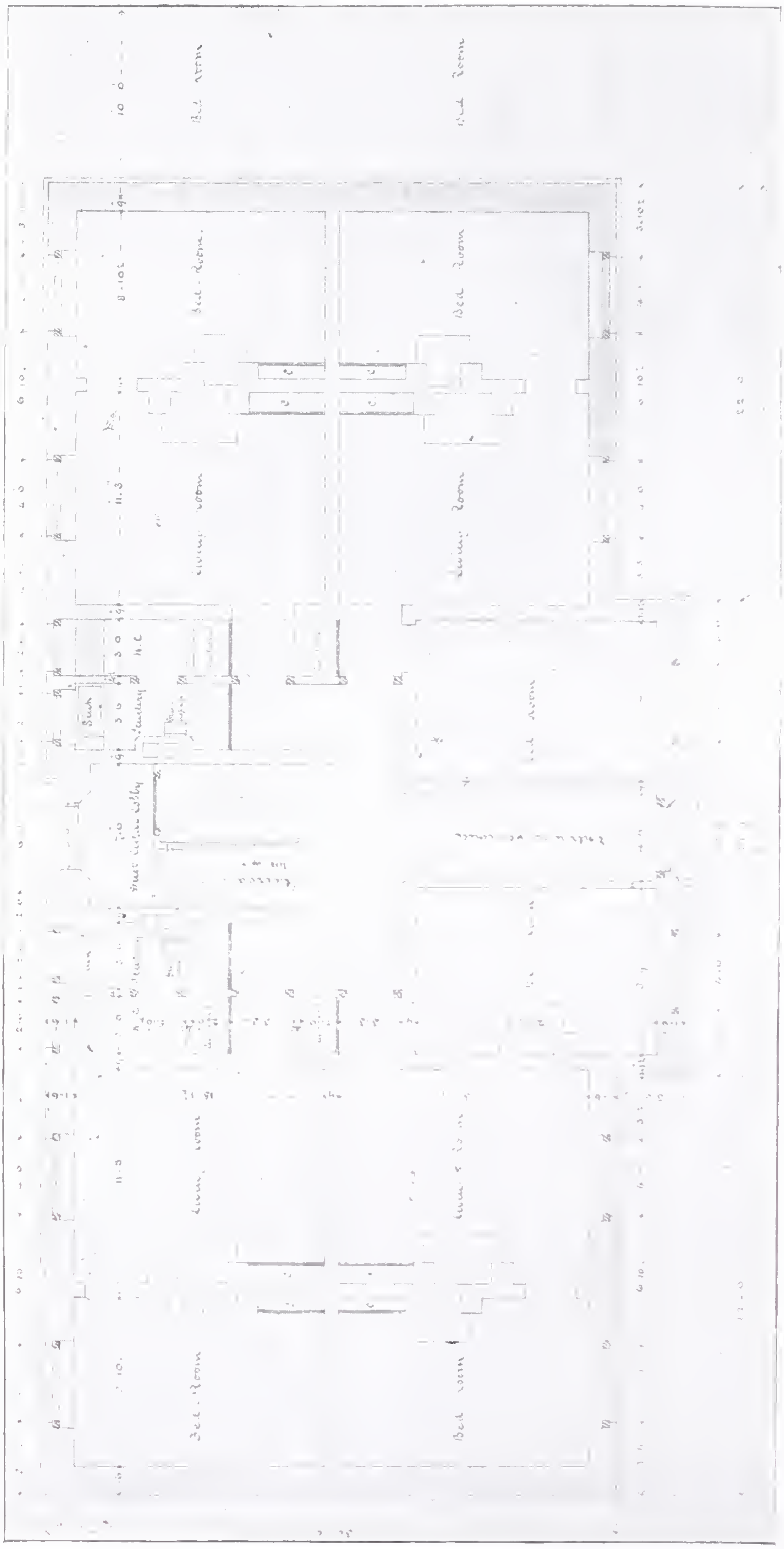


Fig. 4.—Peabody Buildings: Stamford Street Completion. Ground Plan. *Mr. W. E. Wallis, architect.*

pattern pans in the w.c.'s. The soil pipes, traps, and antisyphon pipes, and waste-pipes to sinks, are all of heavy cast-iron, and the joints are caulked with lead. The floors of w.c.'s and sculleries are of concrete finished with asphalte.

A dust shaft, 14 inches by 9 inches, finished internally with a smooth Portland cement face, is built in the side wall of each scullery; this is connected with an amply ventilated dust cellar in the basement and is carried up open full size to well above the roof. A special hopper in connection with this shaft is fixed at each floor level. The convenience of these shafts is very great, and far preferable to providing a sanitary pail for each tenant, which must be emptied every morning by the dustman and remain for the rest of the day in their small dwelling-rooms, a proceeding that cannot fail to be a very great nuisance, besides being detrimental to health. I know that it has been stated that these shafts convey foul air from the "festering refuse" in the cellars.

I can only say that if the dustmen can collect the sanitary pails each morning from each of the tenements in a block, there is no reason why they cannot collect the dust and refuse from the dust-cellars once a day also and thus render impossible any nuisance of this kind.

The staircases are of artificial stone and are in two short flights from floor to floor with good landings. The steps are 11 inches on tread by 6 inches rise and have a plain moulded nosing. The greater part of each tread is recessed or rebated, and the rebate is filled in with a York stone slip, which gives a good foothold and can be very easily renewed and at little cost. The stairs are made specially easy on account of the number of women and children in the blocks. The hand-rail is of half round with round bar balusters all of wrought-iron.

In the earlier buildings erected by the trustees the staircase was left open to the outer air, but for many years past this practice has been given up, and windows are now fixed, as so many complaints were previously made of illnesses and chills being contracted during inclement weather. Experience has proved to us that the later arrangement is the best, as the excessive draughts are done away

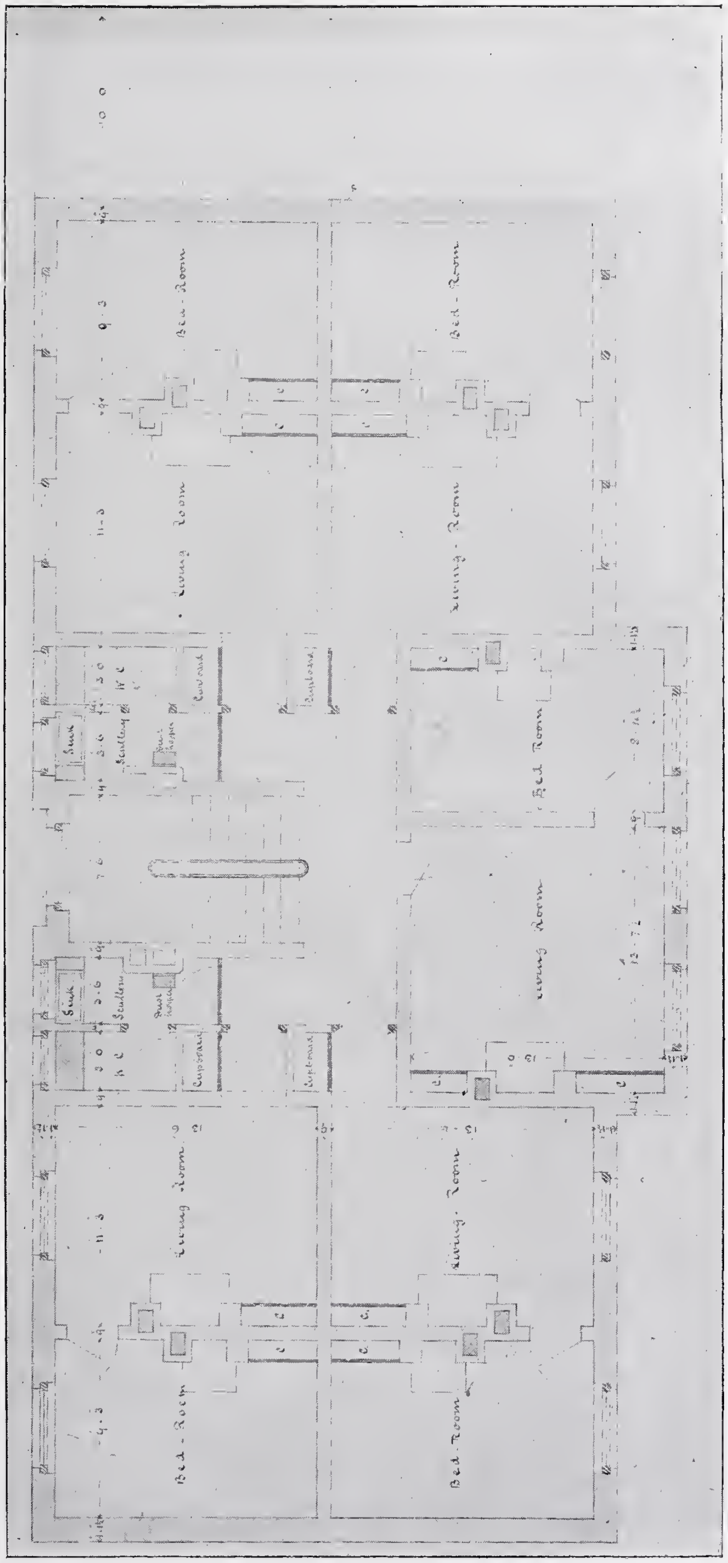


Fig. 5.—Peabody Buildings: Stamford Street Completion. First Floor Plan. *Mr. W. E. Wallis, architect.*

with, while there is still ample air circulating in the staircase and corridors. Under the old system the tenants used to list up their doors, but now this is scarcely known. While on this subject of ventilation, I should like to say that I think it may be overdone. I have been told by Mr. Shirley Murphy of the London County Council that buildings cannot possibly be healthy unless the wind can blow completely through them, and this, he says, applies to both staircases and dwelling-rooms. He also says bedrooms should not be entered direct from the living-rooms. It was for this reason that the London County Council architect had to provide in the Council's buildings back passages, although neither direct light nor air could be given to them. I think such passages are bad in the extreme, besides adding considerably to the cost of the building. Personally I think that, by the bedroom doors opening directly out of the living-rooms, where a fire is almost always burning both summer and winter, there must always be a considerable change of air of all the rooms. As to drainage I think I need say little more than that we carefully disconnect from the sewers by an intercepting trap; that we provide an ample number of well-ventilated inspection chambers; that the highest points of all branches of the drainage system are ventilated, and that all soil-pipes are carried up full bore well above the roof; and finally, that every care is taken to ensure good workmanship, and none but the very best materials are used.

The birth-rate for the year reached 33·1 per 1,000, which is 3·6 per 1,000 above that for all London for the same period. The death-rate, including the deaths of fifty-four inhabitants of the buildings who were removed to hospitals, was 14·7 per 1,000, which is 4·0 per 1,000 below the average of London. Should any gentleman present be interested in the vital statistics of Peabody Buildings, I would refer him to a most exhaustive Report of Dr. Arthur Newsholme read before the Royal Statistical Society in 1891.

In these matters I think, in order properly to appreciate the benefits to the health of people living in good sanitary dwellings, the comparisons should not be with all London, but with the district in which the dwellings are located.

I hope these few particulars will be of service to those interested in the subject.

IV. THE REBUILDING OF THE BOUNDARY STREET ESTATE.

By Owen Fleming [*A.*], F.R.Stat.Soc.

ONE OF THE ASSISTANT ARCHITECTS TO THE LONDON COUNTY COUNCIL.

ON 3rd March 1900 H.R.H. the Prince of Wales completed the labours of seven years by formally opening the last of the many blocks of working-class dwellings that comprise the fifteen acres of East London known as the Boundary Street Estate, Bethnal Green, and he heartily congratulated the London County Council upon the undertaking thus brought to a successful issue. This cordial expression of approval on the part of the Prince of Wales is a source of considerable encouragement to those who have been honoured by a share in the execution of this great enterprise, so full of promise for the social welfare of London's future inhabitants.

The history of the circumstances that caused the condemnation of the Boundary Street district as an "insanitary area," and the incidents attendant upon the purchase and demolition of the condemned property, are related in a pamphlet published by the Clerk of the Council on the occasion of the opening ceremony. These interesting aspects of the general undertaking, however, can hardly be said to come within our province. As architects our point of view is limited to the question of reconstruction, but observations from this point of view addressed to members of this Institute must necessarily go somewhat more closely into detail than was possible in the official pamphlet.

Every architect knows from experience that a series of buildings is never completed without a good deal of anxiety and some disappointment. This is particularly the case when an expenditure exceeding £250,000 has to be carried through without financial extras. For it is obvious that in such a scheme as Boundary Street a heavy bill of extras would have greatly diminished the value of the experiment, the success of which depended almost entirely upon the preservation of its self-supporting character. Given a rate subsidy, dwellings of any character can obviously be built, and when built they can be let at any rents. The real problem is to take the current rents ruling in the neighbourhood and to reconcile them with the financial terms upon which a loan can be raised.

At Boundary Street the current rents ruling in the neighbourhood were at the rate of 3*s.* per week per habitable room, sculleries and offices being included without extra charge. On the other hand the rate of interest prevailing at the time when the loan was raised, added to the sinking fund, rendered it necessary to clear 3¾ per cent. in order to avoid a rate subsidy. The financial conditions, therefore, were more severe than those that are observed, for example, by the great Metropolitan Trusts. This is a point not always remembered when the work of the Council is compared with that of private corporations. Moreover the Council keeps its "Rebuilding" accounts rigidly distinct from the general municipal funds. This example is not generally followed, but it is of great importance after constructive housing work has passed the early experimental stage.

The first important point to note in connection with the re-building of Boundary Street is that public opinion was in a very inchoate state on the housing question when the rebuilding of the estate was commenced. The Council had by no means determined that it would carry through the undertaking. It was an experiment for London. Similar experiments in provincial cities had not been wholly successful. At this time, moreover, the financial conditions under which the rebuilding had to be subsequently executed had not been fully ascertained. When the order was given, for example, to design the first two blocks of buildings on the Estate it was understood that a 100 years' sinking fund would have to be provided for, and that the cost of the extraordinary foundations would not be debited against the buildings. The designs were based upon these conditions, which were complied with, the estimate calculated on this financial basis showing an annual surplus of 12*s.* per annum. However, after the working drawings, specification, and quantities had been completed it appeared that the financial basis upon which the buildings had been designed was an impossible one, and that it would be necessary to reduce the term of the sinking fund to 55 years, and to debit the buildings with the cost of the whole of the heavy extraordinary foundations. Consequently the annual surplus of 12*s.* became converted into an annual deficit of £174 8*s.* 10*d.*, and the estate as a whole thus became burdened with an avoidable deficit that has hampered its development throughout.

These first buildings, moreover, were not wholly satisfactory from the point of view of design. At the moment there happened to be a reaction against elaboration in design, and perhaps the architectural barometer is unduly sensitive. At any rate these early buildings were designed in a plain, simple style, which may not be architecturally suitable for the position. They are good, comfortable buildings, however, from a practical point of view, and, despite their plain exterior, are now very popular with the tenants. If there is one lesson that can be drawn from this occurrence it is that thoughtful architectural design is not possible when architects are being worked at high pressure night after night, and when they are separated from one another in isolated rooms, too distant for adequate co-operation. Three months' more careful deliberation on these early designs, coupled with more precise

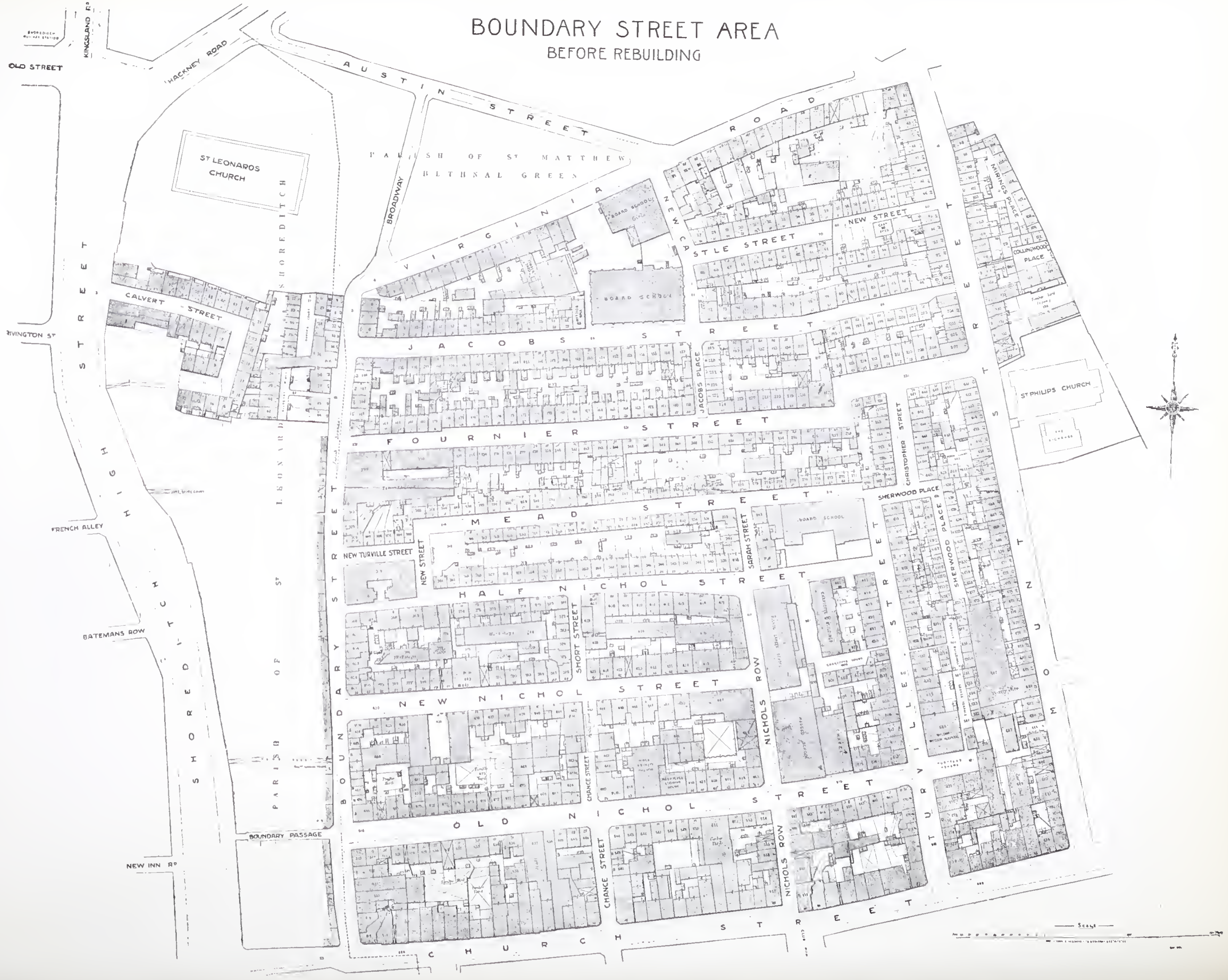

BOUNDARY STREET AREA
BEFORE REBUILDING
OLD STREET
KINGSLAND Rᴰ
HACKNEY ROAD
AUSTIN STREET
ST LEONARDS CHURCH
PARISH OF ST MATTHEW BETHNAL GREEN
BROADWAY
VIRGINIA ROAD
BOARD SCHOOL
NEW CASTLE STREET
NEW STREET
MIRINGS PLACE
COLLINGWOOD PLACE
CALVERT STREET
RIVINGTON ST
SHOREDITCH
JACOBS STREET
JACOBS PLACE
ST PHILIPS CHURCH
FOURNIER STREET
CHRISTOPHER STREET
SHERWOOD PLACE
MEAD STREET
BOARD SCHOOL
SARAH STREET
NEW TURVILLE STREET
NEW STREET
HALF NICHOL STREET
SHORT STREET
NICHOLS ROW
NEW NICHOL STREET
TURVILLE STREET
MOUNT STREET
CHANCE STREET
OLD NICHOL STREET
BOUNDARY STREET
BOUNDARY PASSAGE
PARISH OF ST LEONARD SHOREDITCH
NICHOLS ROW
CHANCE STREET
CHURCH STREET
HIGH STREET SHOREDITCH
FRENCH ALLEY
BATEMANS ROW
NEW INN Rᴰ
Scale

Fig. 6.

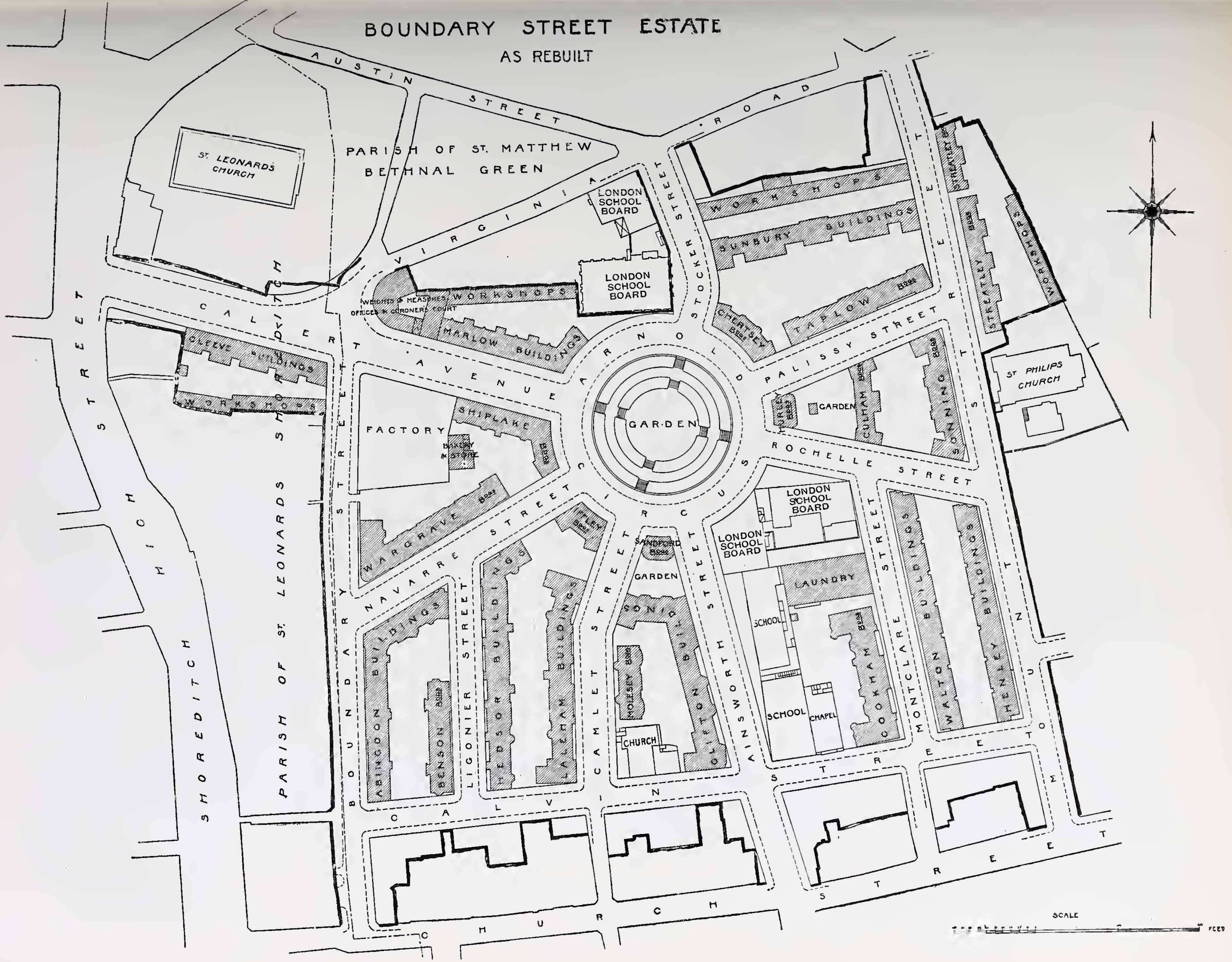

BOUNDARY STREET ESTATE
AS REBUILT
AUSTIN STREET
ROAD
PARISH OF ST. MATTHEW BETHNAL GREEN
ST. LEONARDS CHURCH
VIRGINIA
LONDON SCHOOL BOARD
LONDON SCHOOL BOARD
STOCKER STREET
WORKSHOPS
SUNBURY BUILDINGS
TAPLOW
CHERTSEY
STREATLEY
STREATLEY
WORKSHOPS
ST PHILIPS CHURCH
WEIGHTS & MEASURES OFFICES & CORONERS COURT
WORKSHOPS
MARLOW BUILDINGS
CALVERT AVENUE
ARNOLD CIRCUS
GARDEN
PALISSY STREET
HURLEY
GARDEN
CULHAM
SONNING
ROCHELLE STREET
CLEEVE BUILDINGS
WORKSHOPS
SHOREDITCH
FACTORY
SHIPLAKE
BAKERY & STORE
WARGRAVE
NAVARRE STREET
IFFLEY
SANDFORD
GARDEN
LONDON SCHOOL BOARD
LONDON SCHOOL BOARD
LAUNDRY
SCHOOL
SCHOOL
CHAPEL
COOKHAM
MONTCLARE STREET
WALTON BUILDINGS
HENLEY BUILDINGS
HIGH STREET SHOREDITCH
PARISH OF ST. LEONARDS SHOREDITCH
BOUNDARY STREET
ABINGDON BUILDINGS
BENSON
LIGONIER STREET
HEDSOR BUILDINGS
LALEHAM BUILDINGS
CAMLET STREET
MOLESEY
CLIFTON BUILDINGS
CHURCH
AINSWORTH STREET
CALVIN STREET
CHURCH STREET
SCALE
FEET

Fig. 7.

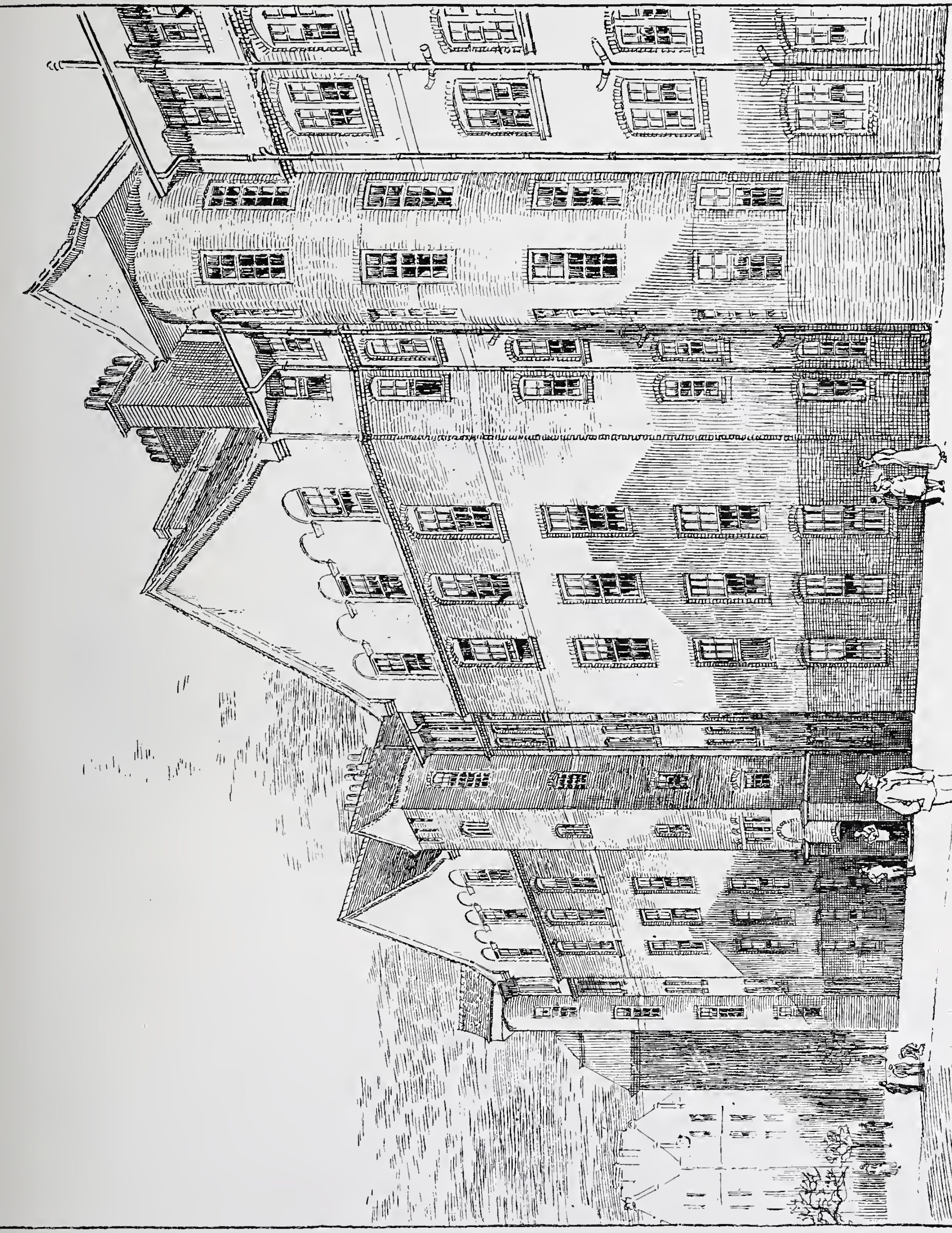
financial instructions, would have been of the greatest benefit to the Boundary Street Estate as a whole.

It now became necessary to undertake the second section of the estate, which comprised the whole of the northern fringe of the area. The general prospect at that moment was gloomy. There was a heavy deficit to clear off. There were rumours of strikes and rises in the price of materials. Public opinion was unsympathetic. Care and attention to detail, however, brought its usual reward. Surpluses began to appear as block after block of the new section was carried forward, and by the time that the section was completed the deficit had been cleared off and surpluses were accumulating. The appearance of the buildings gave more satisfaction to the public and to ourselves. It is important, moreover, to note that this section contains the cheapest buildings that have been built for the Council. Cleeve Buildings cost £79 per room, Sonning £68, Taplow £71, Marlow £67, Shiplake £68. It is true that since the date of these contracts many causes have conspired to increase the cost of building, but even allowing for these the cost per room is low.

Simultaneously with the development of Section "B" an interesting experiment was being tried in the S.E. angle of the estate. Two sites were set apart for a limited competition among specially qualified architects. Unfortunately, however, the experiment did not realise all that had been expected of it. Indeed, the experience that the Council's architects went through in their first buildings was repeated by Mr. Rowland Plumbe, the successful competitor, in a somewhat remarkable way. In each case the amount of money available was considered greater than it actually was. In each case it was determined to try the experiment of constructing only two self-contained tenements per landing. In each case the result was a substantial deficit instead of the surplus that might reasonably have been looked for. In each case the plainness of the external treatment failed to arouse public enthusiasm. Perhaps the most unfortunate result of this competition was that the resulting deficit absorbed the balance of the surplus that had been accumulated upon section "B," and the whole estate was thus again thrown into financial troubles.

It will give some idea of the state of uncertainty of the public mind when it is realised that it was not until October 1895, several years after the commencement of the work, that the Council determined to retain the whole estate in its own hands, and instructed its architect to proceed with the sketch plans of the buildings on the remaining three sections. It is necessary to refer to this point, as it has been held that the time occupied in the reconstruction of the estate was too long. The works could undoubtedly have been completed in a shorter period had the work been ordered at one time instead of at varying intervals.

Towards the end of 1895 difficulties began slowly to increase. The tenants began to grumble at the small minimum superficial area of the rooms (*i.e.* 144 square feet for living-rooms and 96 square feet for bedrooms). They also expressed a desire for private sculleries and for a larger proportion of self-contained tenements. Their views found authoritative support in medical and Government circles, and indeed were worthy of adoption from every point of view except that of cost. The result of this movement was a general improvement in the standard of accommodation, not perhaps quite to the level desired, but sufficient to make the new tenements more commodious and comfortable than those that had been built. The minimum areas of the rooms were increased to 160 feet super for living-rooms and 110 feet super for bedrooms. Many of the rooms exceed these minimum sizes. This change, however, naturally involved a higher cost per room. Other influences were, moreover, working in the same direction of increased cost. The new Building Act increased the thickness of walls, a heavy item in working-class dwellings. The Customs and Inland Revenue Act necessitated an increase in the number of sinks, &c., provided. The Bye-laws under the Public Health Act increased the cost of sanitary fittings. Then wages rose. From May to July



T. Raffles Davison, del.

Fig. 8.

1896 the wages of the skilled trades increased a halfpenny per hour, and this rise was followed on 1st June 1897 by a similar rise in the wages of labourers. The subsequent heavy rises in the prices of materials will be familiar to all architects. Bricks rose almost to famine prices, and the price of brickwork naturally followed. Portland cement, steel joists, slates, lead, and zinc all mounted up in value at an alarming rate. Meanwhile rents did not increase in anything like the same proportion, and the financial strain became at times a source of considerable disquietude to those familiar with the facts and immediately responsible.

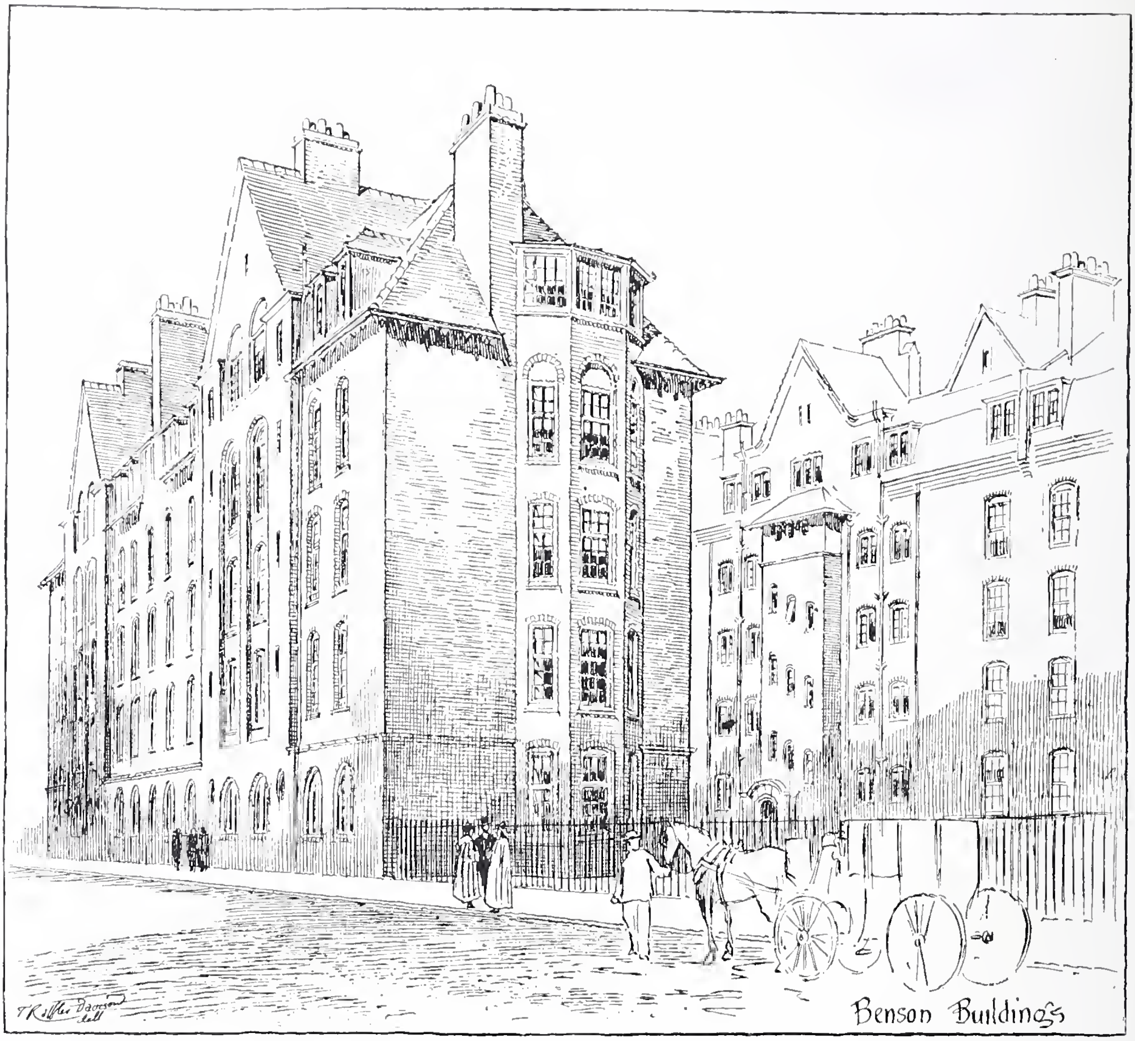


Fig. 9.

On 26th July 1898, however, the quantities of the final blocks of buildings were completed, the financial conditions having been complied with, and the rents to be obtained being sufficient to pay all current expenses, and to meet the interest on the total capital value of the land (ear-marked for housing) and buildings, and to provide a sinking fund to redeem the expenditure within periods varying from fifty-two to sixty years. If these anticipations are realised the estate will in future work out its own salvation. Every year its value to London will increase, owing to the fact that the sinking fund will accumulate far more rapidly than the value of the buildings will diminish. And at the end of the sinking fund period of fifty-two to sixty years the whole estate will have been self-redeemed and thenceforward will be an unincumbered municipal asset.

It is necessary, however, to observe that the fact of compliance with the severe financial limitations imposed by no means implies satisfaction with these limitations. The whole process of development has been one hard, continuous financial struggle. The rents are as high as can be obtained. The accommodation, certainly in the northern buildings, is almost below a reasonable standard. This financial strain is bad in itself, but it has worse effects, because it tends to perpetuate a class of building that in some respects is unworthy of the care and labour devoted to it, and that cannot be substantially altered until the expiration of the sinking fund period. These difficulties would be removed by the extension of the sinking fund term to 100 years, and it is difficult to see what interests would suffer if this extension were accorded by Parliament.

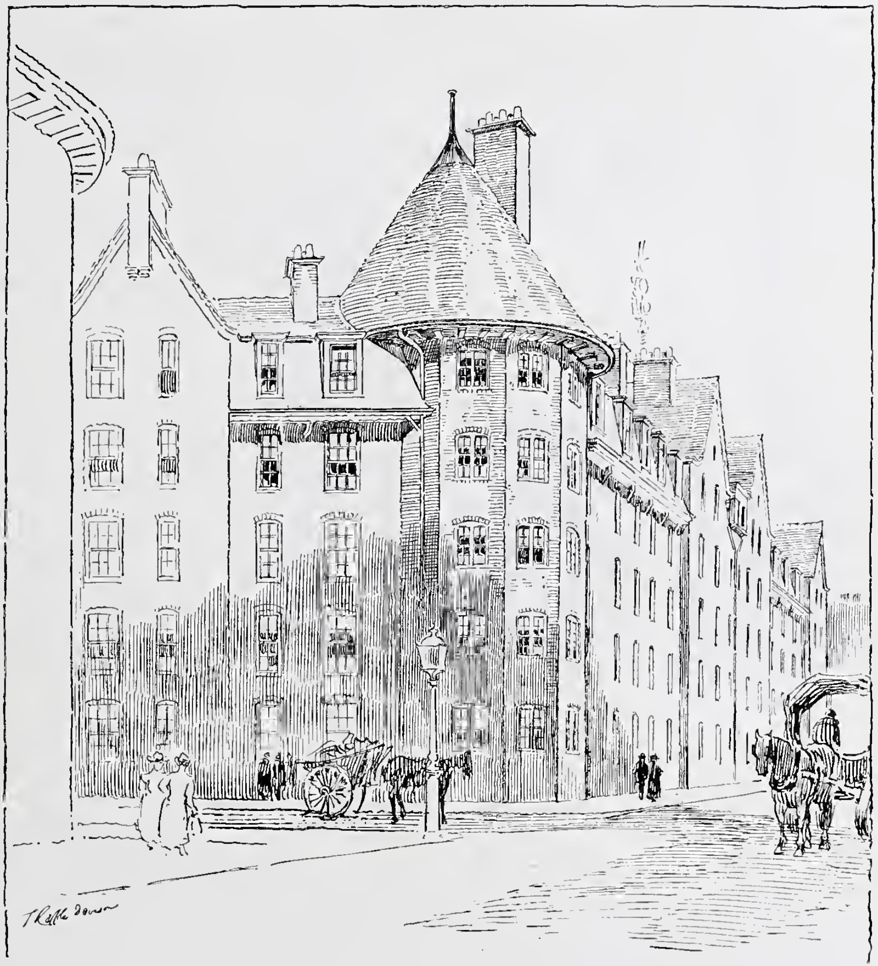
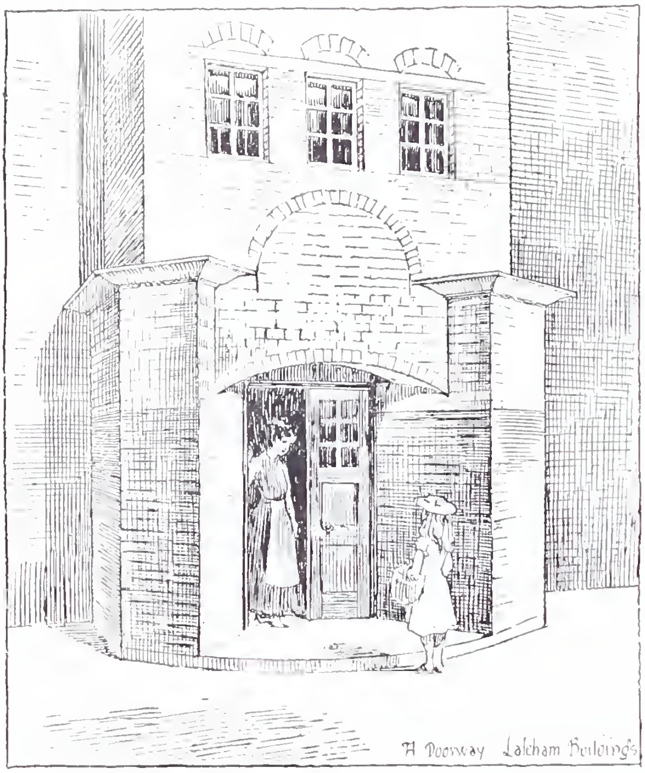


Fig. 10.

It would not be fitting to close this Paper without a few statistics, for statistical information is a valuable part of housing work. The estate as completed (including the Goldsmith Row annexe) contains 1,069 tenements. Classifying these according to their size, 541 consist of two rooms each, exclusive of scullery, 400 of three rooms each, 103 of four rooms each, 15 single rooms, and 10 special large tenements. Classifying the 1,069 tenements in another way, 601 are entirely self-contained; 201 are self-contained, but the private w.c. is detached; 90 have a private scullery and w.c. outside the tenement; 142 have a private w.c. outside the tenement, but use a common scullery, while 35 use both the scullery and w.c. in common with other tenements. These 1,069 tenements are arranged to provide accommodation for 5,524 persons. In addition to this there are seventy-seven commodious workshops and eighteen shops. Every habitable room on the estate is provided with a vertical angle of light of at least 45° and a horizontal angle of at least 90°. The buildings are generally five stories high, and are of fire-resisting construction throughout. Nearly every room has an eastern, southern, or western aspect. Many of the rooms command an interesting outlook which, owing to the radiating arrangement of the roads, is often of considerable extent. The entrance avenue to the estate from Shoreditch High Street is 60 feet wide, and the other six radiating avenues are each 50 feet wide. Each of these avenues is lined on either side with trees, and there are three public gardens on the estate, of an aggregate area of nearly three quarters of an acre. The central circular garden is raised in terraced form, so that the eye is refreshed by a bank of trees and flowers at the end of each avenue. The children's playground is on the level of the highest terrace, and its necessary aridity, being above the pedestrian's eye-line, is not obtruded on the public view. The washing accommodation is concentrated in a public laundry, which is well fitted up, but which needs further organisation to make it entirely popular. The estate also comprises a set of baths, two club-rooms, a bakery, and an estate store and workshop for general repairs. With regard to the question of cost, it is impossible to give an exact figure, as all the accounts have not yet been completed. Apart from this question, however, a very near figure may be arrived at. The cost per cube foot, including architectural commission and salaries, quantities, clerks of works, and all incidentals, works out at about $8\frac{1}{4}d.$, which is as low as any other modern flat dwellings recently erected in London particulars of which have been obtainable. Taking the cost per room as the standard, the cost of building, reckoned on the same inclusive basis, has been about £91 10*s.*, including all foundations. This is within a few pounds of the average cost per room of the Peabody Buildings (£86 17*s.*), erected many years ago. A similar comparison as to land shows that the Peabody land cost £23 3*s.* 2*d.* per room, while Boundary Street was debited with £21 16*s.* per room. It is true that the Peabody rooms are let at 2*s.* $3\frac{1}{4}d.$, as against the Council's 3*s.*, but this variation in rent is not due to difference in original cost.



T. Raffles Davison, del.

FIG. 11.

One last paragraph. It is to testify to the interest and devotion that has been displayed by all concerned in the execution of this work. Of the Council's late superintending architect, Mr. Blashill, it is impossible to speak without enthusiasm. The confidence he placed in us younger men, often in the face of a good deal of public criticism, has endeared him to us in perhaps a special degree, and it has been an honour for us to have been selected to assist him in the execution of the greatest work of his public career. But Mr. Blashill would be the first to acknowledge the architectural skill displayed by those younger architects who have impressed very interesting individualities upon different portions of the estate. We are especially indebted to Mr. Gardhouse Charlton, Mr. R. Robertson, Mr. C. C. Winmill, Mr. R. M. Taylor, Mr. W. Hynam, and Mr. A. M. Philips, and their respective colleagues. Many of these architects met for the first time in the class-rooms of the Architectural Association some years ago, and it may be encouraging to those who are now occupying their places to know that their predecessors were so soon afforded such an excellent opportunity for carrying out the lessons they had learned in the various schools of design. The efforts of the architects were, moreover, ably seconded by the great body of skilled artificers who have striven to make this estate a model of good workmanship. Personally I feel a special sense of comradeship with the men who have actually worked on these buildings. Their continuous struggle forwards, despite those soul-destroying delays when materials urgently needed do not arrive, or arrive wrongly contrived; their perseverance, in the face of repeated storms and frosts, calls forth the most cordial recognition. If any members of this Institute are ever tempted to visit Boundary Street, and find the workmanship worthy of admiration, will they think of the silent unnamed workers, by whose patient labour this great structure has been built up?

I have been asked to say a word in conclusion as to the probable influence of Boundary Street on the future, but that is almost beyond the scope of this Paper. Prophecy is a gift reserved for the very few. The Millbank Estate, which is to West London what Boundary Street is to East London, will be completed probably within two years from the present time. It will house over 4,000 persons, and will be perhaps more stately in architectural character than Boundary Street could have been. Moreover, other works are proceeding in other districts of London, and a large cottage scheme in the southern suburbs is under consideration. To quote from the report of the Clerk of the Council presented at the Boundary Street opening, "the Council is engaged in operations which, if conducted at one spot, would result in the formation of a town of nearly 36,000 inhabitants—that is, of the size of Macclesfield, the well-known manufacturing town of Cheshire." Much of this work, however, yet remains to be completed.

DISCUSSION OF THE FOREGOING PAPERS.

Mr. J. M. Brydon, *Vice-President*, in the Chair.

The CHAIRMAN said that the main points seemed to be, first, how to house the people who were turned out of the areas on which these great schemes were to be carried out. The usual result appeared to be that the people dispossessed never came back to the reconstructed dwellings. Secondly, how to build economically and efficiently—evidently the great crux of the question. Thirdly, how to house the labouring classes near their work. He would ask Mr. Blashill, who had had so much to do with the monumental scheme so successfully carried out on the Boundary Street area, to open the discussion.

Mr. THOMAS BLASHILL [*F.*], late Superintending Architect to the London County Council, after thanking Mr. Fleming for his kind references to him, referred in eulogistic terms to the staff of architects who had been engaged on the Boundary Street work. It was a great scheme, and required the efforts of many different minds. Every one of them had contributed to the success of the work, and deserved a full share of whatever credit attached to it. With so little variety of materials—with nothing more ornamental than great bands of brickwork, which was all they could afford—it must be acknowledged that they had achieved, from an architectural point of view, very satisfactory results. What he had to say on the present occasion concerned not so much the architect or the builder's duties, but rather the contrivers and planners of these schemes. What was really wanted were buildings that the poorer class could live in. No class of society had houses perfect in every respect, and with which their occupants could be completely satisfied. But in an artisan's dwelling everything must be perfect—that was driven home to them at every turn. The philanthropist would listen to no economies where provision had to be made for the labouring classes. Yet to have cheap buildings they must economise in every possible way. A member of the County Council once protested to him against the cruelty of having no lifts in an artisan's dwelling of five stories high—it was "too bad," he said, "to make them climb so high"! He feared, too, that people would have to be satisfied with something less than what the medical officers thought they ought to have. If the municipal authorities did not build for the very poorest he did not know why they should build at all. There were private speculators in plenty to build for other people. Again, he thought the necessity for people living near their work was a great deal too much insisted upon. The original Artisans' Dwellings Act, which was superseded by the Act of 1890, decreed that the people turned out must be rehoused on the site or in its immediate vicinity. That was impossible, because the land must be vacant for a time, and the houses in the vicinity were just as bad as the houses that were to be pulled down. As a matter of fact the great bulk of the people could be accommodated very well some two or three miles away with no hardship at all, considering the long distance they could be carried for a penny. In proposing a very hearty vote of thanks to the authors of the Papers, Mr. Blashill said that the ground had been exceedingly well covered. They had given of the best of their thoughts, and their large and varied experience gave immense weight to their views. He was particularly glad to hear the information given by Mr. Spalding and Mr. Wallis upon the question of plans. He had been much struck by the justice of Mr. Honeyman's remarks upon the points which he himself had just touched on. It was interesting to have information from Glasgow, which was early in the field in this matter. With regard to single-room dwellings, they were more accustomed to them in Glasgow than people were in London. The single-roomed dwellings in the old Salt Market were really very desirable. They had a fashion of what were called bed cupboards—not close cupboards, as sometimes to be met with in cottages, but quite spacious receptacles. It seemed an altogether excellent arrangement. Those less familiar with the subject, or less critically inclined, would find a great deal of valuable information in the Papers; and the Institute was to be congratulated upon having got such a useful series.

Mr. J. DOUGLASS MATHEWS [*F.*], in seconding the vote of thanks, confessed that he took a somewhat different view from many of those put before them in the Papers. He thought Mr. Honeyman's met the matter most fully. He could not understand why public authorities had to deal with the question at all. The erection of artisans' dwellings ought to be left to private enterprise, except in the case of buildings for the very poorest class, which could not be built at a remunerative rate, and for which the authorities should grant some assistance. For the class Mr. Honeyman particularly mentioned, those earning but a few shillings a week, a decent-sized room for a man and his wife, or perhaps with one or two small rooms opening out of it for children, might be not quite the accommodation a medical officer would like, but it was not an uncomfortable arrangement, and might be built to pay a small percentage. The building of such dwellings might reasonably be subsidised by the public authorities, and the actual requirements of the very poor be reasonably met. The occupants of these dwellings were the people who really wanted to be near to their work. The ordinary working-man, such as the building artisan, was seldom required to start work before seven o'clock in the morning, and he finished at five or half-past, and therefore had plenty of time to get away to the suburbs by means of cheap trains and trams. In the case, however, of dock labourers and people earning very small sums, who almost every day had to cast about for a job, it was of the utmost consequence that they should live near where they might expect to find work, and at any hour early or late. But the public authorities ought not to waste the ratepayers' money in dealing with the ordinary artisan, who could afford to pay rent as well as any other class of society. Comparing conditions now with what they were twenty-five years ago, he was doubly as well off: his wages had greatly increased; he had nothing to pay for his children's education, less to pay for rent, food, and commodities—everything was cheaper—in fact, he was favoured in every way. With reference to the Boundary Street scheme, it seemed to him that they were beginning at the wrong end, because in order to make it pay the County Council had to charge a higher rent to those who ought to have cheap dwellings, or else they spent the ratepayers' money to help those who did not need such help.

Mr. WILLIAM WOODWARD [*A.*] said he thoroughly endorsed all that Mr. Douglass Mathews had said with regard to public bodies taking in hand the provision of artisans' dwellings. He was astonished and pleased to hear Mr. Fleming say that the buildings on the Boundary Street site had been erected at 8¼*d.* per foot cube. He should be glad to know the cost per rod of labour in the bricklaying work of the building. With regard to buildings erected by the London County Council, his impression was that the reason they could not be produced at the very low price desired was because, and principally because, the workmen do not work. It was a well-known fact that the initiation of these buildings by the London County Council had caused more organised idleness in the Metropolis than the act of any other body in the kingdom, and until the workman would endeavour to give his master a reasonable day's work for a reasonable day's pay they would never get dwellings at the price the very poor could afford to pay for. He should like to ask Mr. Fleming what the cost per foot superficial of annual ground rent was, or what the price of the freehold of the land was, and also what table was selected for the Sinking Fund. With regard to building regulations being relaxed in the case of these dwellings he heartily agreed with Mr. Honeyman. He would even go so far as to say, if the corridors and staircases were made fireproof, it was not absolutely necessary that the whole building should be so constructed. In consequence of a few large fires in the City, which had caused great destruction of property, though happily not of life, some of the most expensive enactments had been forced upon building owners, and these might very well be relaxed. Again, with regard to thickness of walls in artisans' dwellings and other buildings, the walls required by the schedule to the Act of 1894 were in many cases of quite unnecessary thickness. Those were matters in which the public authorities could help a private individual to provide dwellings for the poor people at a very low price. When the first Peabody Buildings were being erected it was said that no successful dwelling for the working classes could be built if the ground rent per foot superficial exceeded 3½*d*. In his opinion some steps should be taken to force the great ground landlords to let their lands, when artisans' dwellings were needed, at a price which would enable the speculating builder, or a private individual, to erect buildings where rooms could be let at a low rent per week. That question the Prince of Wales himself had referred to, and it was one which must come to the front. Although he (Mr. Woodward) was a staunch Conservative, he thought the ground landlords deserved severe blame for the hard terms they forced upon anybody who wished to build upon their land. He was not speaking of small freeholders, but of the big ground landlords, who amassed wealth not by any efforts of their own but from the profit which attached to better buildings being erected in the vicinity of their land. It was by the freedom from over-stringent regulations which the municipal authorities should give in the erection of these dwellings, by the lessening of the ground rent by the landlords, by the encouragement to their erection by private individuals instead of by the local authorities, that the very poor of the working classes might be secured a decent dwelling at a rate within their means.

Mr. HENRY LOVEGROVE [*A.*] said he had seen a good deal of the Boundary Street Dwellings, and he was thoroughly satisfied with them. The plan was admirable and the elevations extremely pleasing. He had had some practical experience with such dwellings, and it was most difficult to keep the cost within bounds, and at the same time give a little ornamentation to the buildings. With regard to the partitions in the Boundary Street buildings, he should like to ask Mr. Fleming whether they were quite secure. In the case, for instance, of a man intoxicated and falling against the partition, could it stand such a test? Another serious question: knowing the neighbourhood as he did, he could not be blind to the fact that many hundred persons had been turned out of their dwellings there, and they were living in the immediate vicinity, crowded into the houses, a family in every room. Being subpœnaed in a lawsuit, he had to inspect some of those houses. In one house he found a woman and four children in the scullery, in another house a woman and three children in the scullery, and the table and chairs had to be moved to allow the surveyor to pass through to the back. A matter equally serious was the uncleanliness of some of the tenants. Within two years from the completion of a certain block of dwellings he had been asked by the medical officer to go into the police court and testify to the filthy condition of the houses. There was much to be done in the way of making the tenants more cleanly and more decent in their ways. It had been truly said that the Boundary Street dwellings did not meet the want they were designed for. All this trouble had been undertaken to give a nice little house at a very low rent, at the expense of the rates, to railway guards, clerks, builders' clerks, builders' foremen, clerks of the works—for those were the tenants in Boundary Street now—while the people who were living from hand to mouth, getting a job when they could in the streets, had to crowd in miserable dwellings, because the buildings intended for them could not be designed for their needs, and consequently were too highly rented for their means.

Mr. E. W. HUDSON [*A.*] said he could corroborate Mr. Woodward with regard to the price of land. He remembered the figure at which it was stated, years ago, that land must be obtained for workmen's dwellings to be remunerative, but that was in the time of the late Metropolitan Board of Works, when such matters were looked upon from a very different economic point of view from what they were now put forward under the London County Council, which did not hesitate to dip into the pockets of the ratepayers to an alarming degree. It must be candidly admitted that surveyors themselves were sometimes to blame for the large amount that owners claimed for their land when required in the public interest. Was it not the fact that some who were considered experts gave evidence in arbitrations and before the Courts which varied to such an extent as to show their figures were partial and had a tendency to exaggerate the claim of the side upon which they were retained? Mr. Honeyman's arguments with regard to single-room tenements impressed him very much. It seemed to him that a one-room tenement was a very necessary kind of dwelling. Probably it might be a revelation to others that they ought to provide for the poorest class of all and let the more fortunate—he would say, most fortunate—artisan or mechanic provide for himself in the suburbs for the present. Then with regard to dwellings being erected by private speculation, they must remember that speculators required a larger return than councils or philanthropic trusts, and that on an ordinary 16-feet plot, worth £6 ground rent, they could not by any means get more than four dwellings—two on ground floor and two over—without thicker walls than one brick; and therefore upon that £6 ground rent they ought to get £30 or £34 a year gross rental for those four tenements—*i.e.* £8 10*s.* each per annum, or 3*s.* 3*d.* per week. The only justification for a capitalist going in for these small suburban houses was the creation of improved ground rents where their number was legion. Even with this in view the enormous cost of labour now rendered the greatest caution and judgment essential to a satisfactory result. Repairs were often a large item in model dwellings, and in some quarters of London he remembered instances where the wooden fittings were persistently destroyed for firewood by the tenants. He did not know how that difficulty could be entirely got over; regular inspection might be necessary after careful inquiry as to the proposing tenants. Possibly at Boundary Street there was a more respectable class of occupant. It always struck him that the rents asked for rooms in the earlier Peabody Dwellings were too high for a really philanthropic undertaking and more than could well be paid by the very poor; but if they were occupied by mechanics and artisans that objection disappeared and such rent would fall lightly upon their means. Then also as regards sanitation he could not help thinking of some hundreds of jerry-built suburban houses lately inspected, where all were 9-inch walls, built half of place-bricks laid in garden mould mortar not too well acquainted with the lime bag: such places did not seem to him to tend towards preservation of healthy life, and therefore in model dwellings such as those of the London County Council or Peabody Trust there must be much more chance of inmates keeping in good health than in suburban abortions of the speculating builder. He was not in favour of a hollow floor, wooden joists, and boarding. They tended very much towards the housing and propagation of microbes and vermin. If the floors were of concrete and the boards nailed close down upon sunk battens it must be not only better from a sanitary point of view, but also fire-resisting. Mr. Woodward suggested that if the stairs and corridors were fire-proof that would be sufficient; but he could not help thinking that in the narrow corridors there would be risk of flames bursting through naked floors of rooms, both sides at once overlapping the passage and preventing escape of young children left alone in the set. The narrow space of each room rendered very light I girders and thin concrete slabs sufficient for safe flooring, and need not be so very costly. One other thing occurred to him in looking at some of the plans. The food cupboard was over the coal-box, which, unless there was some means of preventing the coal dust from penetrating the food cupboard, seemed a very undesirable arrangement. In others the w.c. was opposite and very close to the food cupboard. As to the size of living-rooms, 144 feet super in area did not seem to be anything to complain of. If possible, living- and bedrooms opening into one another should be avoided, to prevent objectionable smell from cooking permeating bedrooms.

Mr. H. HEATHCOTE STATHAM [*F.*] said he should like to make a slight protest against Mr. Honeyman's rather decided move in favour of the one-roomed tenement. It reminded him that there was a paper very strongly recommending one-roomed tenements read before the Institute many years ago. It was rather a new idea at the time, and Mr. Honeyman had shown that there were classes of tenants to whom this kind of dwelling seemed desirable. But when such a dwelling was proposed for a family the question of decency and morality had to be considered. If parents with very young children were admitted they would probably live on there, and he thought it undesirable to encourage these dwellings for married people. As Mr. Honeyman said, for a single man, or for two women living together, the system answered very well. The question of the self-contained or associated building was also concerned with questions of sanitary conditions as well as decency. He should say that it was far better for a man who would keep his house decent to have it self-contained, and to have all his sanitary arrangements within his own house; but if they were legislating for the lowest class of people the result would be that the closets would not be kept in decent order, and unless they were placed outside they were not liable to proper supervision, except by domiciliary visits, which were an intrusion on privacy and should always be avoided if possible. With regard to the Manchester plan shown among the illustrations, he should deprecate very much the adoption of the quadrangular plan for a building of that character. He was interested to see the arrangement for the open staircases, which was a very old theory of his (the speaker's), and which was certainly the best way of mitigating the evil; but when it was a question of housing a great number of people in one block of buildings the quadrangle was the least desirable form; at all events, one side of it should be one story only, and not carried up the whole height. Then there was the question of the buildings paying or not. He should like a little more information as to the Peabody dwellings, and whether they were remunerative. He asked the question for this reason: A great many years ago he was inquiring into the subject, and had an interview with the then manager of the Peabody Trust. That gentleman was contemptuous about the philanthropists who wanted to make a percentage. He said: "We do not want profits; we are doing good to the lower classes." Looking at the very low rent at which some of the rooms were let, compared with those in Boundary Street, it seemed a question whether it was not to some extent pauperising—at all events they seemed to be lower rents than would appear to be remunerative, properly speaking. It was gratifying to have the statistics about the health average of these dwellings, because some years ago medical men began to condemn these enormous block dwellings, which they said were unwholesome. The statistics, if accurate, might be taken as a complete answer to that accusation.

Mr. W. E. WALLIS [*A.*], replying to some of the points raised in the discussion, referred to the class of people housed in these dwellings. The Peabody Trustees did their best to put the poor class of tenant in by taking as a basis the wages of the head of the family. If a man were earning more than 25*s.* a week they would not admit him. True in some cases he might be earning 30*s.* and represent his earnings as only 25*s.*; but whenever possible the Trustees ascertained from his employer the actual amount of his wages. So that they managed to restrict the tenants to the class Mr. Peabody intended to benefit. As regards rents of the Peabody Buildings compared with Boundary Street, Mr. Fleming mentioned that the latter was within a pound or two of the cost of the Peabody Buildings. It was useless to speak about the cost of a room unless the size were taken into account. The Peabody rooms were decidedly larger than the average room of the Boundary Street Buildings. The Peabody living-rooms contained an area of about 158 feet 6 inches; the bedrooms 131 feet 7 inches; whereas many of the rooms of the County Council Buildings were limited to 97 feet. As regards the single-room tenements, they were most useful dwellings. If immorality arose from them it was entirely owing to want of supervision and care. If a man and wife were childless, or had only one or two young children, they were allowed to take a single room; but every year a census was taken of the inhabitants of the Peabody Buildings, and the ages were carefully sifted to see that the children were not too old to occupy the room of their parents, or that the boys and girls were not too old to occupy the same room. As to the question of cost, the Peabody dwellings cost £86 per room, whereas he understood Mr. Fleming to say the County Council's cost £91 per room, so that there was a little difference in the cost, and a very great difference in the size of the rooms. They also had to go very deep for the Peabody foundations, never building on anything but ballast, when they got to good hard ground. In some cases they had gone as far as 24 feet down, as, for instance, at Westminster—though in that case part of the excavation paid for itself, as they came across very fine sand. On the question of paying, the rent of a Peabody dwelling was considerably lower than that of the County Council; the former averaged 2*s.* 2*d.* per room, the latter 3*s.* The Peabody Trustees made on their new buildings a profit of slightly more than 3¼ per cent.; the old buildings could not easily be taken into account because of recent years sites of many of the old buildings had had to be re-drained, and the fittings taken out and remodelled altogether, at very great expense. At the present time, on one site alone, he was spending about £3,000. On the modern buildings, including the heavy price of land and all expenses—architects' fees, lawyers' fees, and everything—they made a profit of from 3¼ to 3½ per cent. Taking old and new buildings together it came to a little more than 3 per cent. This showed that buildings could be erected which would pay. The great expense in planning was caused through dodging about and having a tremendous lot of passage-way. Illustrating his point by reference to the plans of the Herne Hill buildings, which were shown on a screen, Mr. Wallis showed that passage-way was avoided as much as possible. The same passage-way served for many purposes—to the rooms, to the w.c.'s and the doors, and also partly to the landing. The passage-ways demanded by the County Council were most expensive, and somebody must pay. Mr. Murphy told him that he did not think the Trustees ought to consider *£ s. d.* at all. He (the speaker) told him that the County Council might not do so, but the Trustees were bound to consider it. Mr. Peabody's idea was that the scheme would easily pay 5 per cent. However he left it to Lord Derby, the first acting chairman of the Trustees, and Lord Derby thought they might let the dwellings at something less, so they aimed at 3½ per cent., which was a very good profit. There had been a great fuss about the necessity for through draughts. The tenants did not want them, neither did the doctors. He had mentioned in his Paper that there was an objection to it, and they had closed the staircases; but it was not only on account of the tenants' complaints, but on account also of the complaints of many medical men, who said that they were avoiding one evil—that of more or less vitiated air—and falling into another which in this climate they ought to be careful to avoid—that of having the wind blowing right through the rooms. Some public authorities seemed to think that the working classes were a lot of noxious animals who ought to be kept in rabbit hutches, with wire back and front, so that the air could blow right through them. As regards convenient-sized rooms, the ordinary tenants of the class they catered for seemed to get the largest furniture they could find in London. Instead of doing as officers do in small quarters, getting in things compact, they got the largest bedsteads, the largest chests of drawers, and everything else in proportion; and the result was that in a narrow room there was literally no space to pass about at all. This peculiarity should be borne in mind. The great thing the Peabody Trustees aimed at was wholesome dwellings; they were not aiming at giving these people a certain number of cubic feet of air space, or a certain number of superficial feet area; they were aiming at giving them a room which would be useful to them, and as large as could be afforded for the rent they received; whereas if they got a narrow room they could do nothing with it. He only recently saw plans for some buildings carried out for a well-known building society, where in one dwelling-room there were four doors, one fireplace, a window, and two cupboards, and the room was only about 13 feet long and 10 feet wide. Where was the comfort in such a room? But before they could do much in helping the working classes or providing dwellings, the Government people ought to be taken seriously to task. Only last summer the Peabody Trustees were asked by the Bow and Whitechapel Railway Company to take over some land at a cheap rate, and they asked 2*s.* 6*d.* a foot, to house the people they were compelled to house. The Railway Company displaced under their scheme 168 people, but as many of those people were in houses of £100 a year rental it was not necessary to re-house them at all; but they asked the Trustees to take the matter up, and the Home Office, whose consent had to be obtained, allowed them to go on month after month revising plans—he had to provide some twenty-four different plans—and then when they thought all was settled they had a note from the Home Office saying they had come to the conclusion that the Trustees did not build for a sufficiently good class of people, of the standard that they intended the Railway Company should build for. Considering that the standard the Railway Company had to build for was a very low one, he did not know on what grounds they claimed this right. It resulted in the Railway Company accepting a contract to house 168 people only when the Peabody Trustees would have housed 300. When he inquired at the Home Office what class of people they wanted the Trustees to house, he was told they preferred dwellings of from five to six rooms, and self-contained!

Mr. OWEN FLEMING [*A.*], referring to the phrase "the ratepayers' money," used by a previous speaker, said that was rather a wrong conception of the way the Council worked. The ratepayers were simply guarantors. The people who lent the money were the stockholders, and the people who paid the money were the tenants. What the ratepayers got for their guarantee was the property at the end of sixty years; and he thought it a rather good financial transaction for the ratepayers. He did not think Mr. Wallis quite grasped the point of Mr. Statham's question. It was not a point as to whether the Council or the Peabody Trustees had spent their money well or not. The Peabody Buildings were mainly built between 1864 and 1880, and the cost of building was very much lower then than now; but the point was this: Could the Trustees raise the rents of the Peabody Buildings and yet let them?

Mr. WALLIS: Yes. Generally they had about ten thousand times as many tenants as they wanted.

Mr. FLEMING: Exactly. The Peabody Trust were in this difficulty. They were earning a rate of interest which was incompatible with the present market value of money, and at the same time they were under-letting their buildings. He was asked what was the cost per foot super of the Boundary Street land. Giving it from memory, he should say that it was between 4½*d.* and 5*d.* per annum. With regard to the method on which the sinking fund term was calculated, this was a little complicated. Every year a certain equal sum was taken from the rents and invested at compound interest. That sum went on accumulating, and then the next year they took a similar sum, and that also went on accumulating automatically. At the end of sixty years these fifty-nine sums had together accumulated to the whole amount of the original cost of the land (ear-marked for housing) and buildings. Then they paid off the stockholders, who thereupon disappeared from the transaction altogether, and the property became the unincumbered property of the ratepayers.

Mr. WOODWARD said he had not asked about the principle of the sinking fund, but as to what table had been selected.

Mr. FLEMING: It amounted to money invested at 2½ per cent. That was a little lower than the current value, and it must be so, because the rate of interest was falling as the years went on, so that for sixty years they came down to 2½ per cent. for reconstruction. With regard to Mr. Lovegrove's question, the partitions were perfectly sound. They had used the pick on them and picked a hole in them, and if that could be done in such large partitions there could be no question as to their soundness. The partitions were simply coke breeze and cement, 2½ inches to 3 inches thick, with no iron at all. With reference to the question of rehousing, it should be remembered that it was theoretically unsound and practically impossible to build the new buildings down to the low standard of sanitation required by the displaced persons. Far more good was done by providing accommodation at a higher standard. The ultimate result of that process was that the benefit was extended to five or six times the number of those actually accommodated. That scientific method of procedure would appeal to those who were personally familiar with the habits of the class of persons usually occupying condemned areas.

REVIEWS.

GOTHIC ARCHITECTURE.

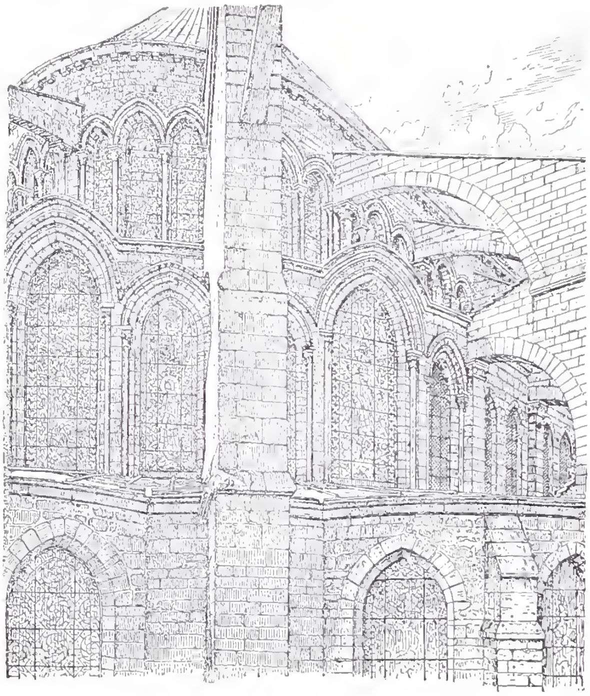
Development and Character of Gothic Architecture. By Charles Herbert Moore. Second Edition, rewritten and enlarged, with ten plates in photogravure and 242 *illustrations in the text. Demy* 8o. *New York and Lond.* 1899. [*Messrs. Macmillan & Co.*]

We are glad to welcome a new edition of Mr. Moore's book on Gothic architecture. It is a book of great and unquestionable value. Manuals and text books on Gothic we have in abundance; but not one of them tells us what Gothic architecture is. This is exactly what Mr. Moore does. He sets forth clearly and logically the philosophy of Gothic construction which is scattered throughout the many volumes of Viollet-le-Duc's great *Dictionnaire Raisonné de l'Architecture Française.* But a whole generation has passed away since the publication of that *magnum opus.* Can it be that archæologists have learnt nothing for thirty years or more? Certainly in France the far-reaching hypotheses of the sixties are no longer received in an unquestioning and uncritical spirit. Anthyme St. Paul, Planat, Brutails are far from according to Viollet-le-Duc's theories the unreserved acceptance which they receive at the hand of Mr. Moore. It may be worth while to set out in detail some of the objections to the theory of the real inwardness and essence of Gothic architecture as set forth by Viollet-le-Duc and his school, of which Mr. Moore is a thoroughgoing adherent.

The book may be described, I think, not unfairly as an elaborate attempt to prove, first, that the Gothic of England, Italy, Germany, Spain, and of most of France is not the same as the Gothic of the Ile de France or of the old Domaine Royale; and, secondly, that if it is not the Gothic of the Ile de France or of the old Domaine Royale it is not Gothic at all. The first proposition goes without saying; to the second many would demur. To deal with the second we must look at the author's definition of Gothic, which is substantially that of Viollet-le-Duc. Everything hangs on this definition. If that fail, down comes the elaborate superstructure of the whole book. A Gothic building, he tells us (page 8), is one "whose stability depends upon a logical adjustment of active parts whose opposing forces neutralise each other and produce a perfect equilibrium." "It is a system of balanced thrusts." "Wherever a framework maintained on the principle of thrust and counter-thrust is wanting, there we have not Gothic." Such is the definition. Given the definition, you may be able to prove all that is desired. So can a political economist. Allow him to frame as he please his definitions of capital, wealth, rent, and the like, and he can prove anything. To return to Mr. Moore's definition: To begin with, it seems unfortunate that he should not have gone on to explain what he means by such a definition. It certainly requires explanation. By collating various pages, however, and by reference to Viollet-le-Duc, we may make out what is meant, viz. that in every aisled Gothic building the outward thrust of the high vault is neutralised by the inward thrust of the flying buttress; so that the lofty pier, pressed on one side by the high vault, and on the other by the flying buttress, cannot budge an inch to north or south. But is this true? It is true, of course, that the arcuated vault has an outward thrust. But surely a flying buttress has little inward or upward thrust. Yet Mr. Moore speaks of it as "an active part," and of "its counter-thrust," and (page 20) of "the active principle introduced with the flying buttress." He seems to conceive a flying buttress as a sort of hydraulic ram, set in motion by some hidden force, and always pushing inward at the clerestory wall. It is true, indeed, that if the flying buttress be set almost horizontally, as at S. Remi, Rheims, N. Dame de Châlons-sur-Marne, Canterbury choir, Chichester presbytery, and certain other examples of twelfth-century Gothic, the weight of the upper part of the flying buttress will press against the clerestory wall. And if the flying buttress be heavily loaded with masonry, as were some of the early examples, *e.g.* at New Shoreham, at Boxgrove, at S. Martin, Laon, and at Noyon, the pressure against the wall will be considerably increased. But if we look at the buildings of the thirteenth century—the culminating period of Gothic engineering—we shall find that the flying buttress is set much more vertically—*e.g.* at Semur—and is often of exceedingly light construction—*e.g.* at S. Urbain, Troyes—and that in these thirteenth-century flying buttresses the inward pressure is practically a negligeable quantity. Think of a ladder set up against a window. If it be set up nearly vertically, it will, perhaps, not break the glass. But if it be set up at a considerable angle it will certainly break the glass, more especially if the ladder be a heavy one. This being so, we cannot avoid the paradox that the author's definition of Gothic, while applicable to some extent to the rudimentary Gothic churches of the twelfth century, excludes most churches erected in the complete Gothic of the centuries following.

But the main function of the flying buttress is not to originate thrusts itself. What it was meant to do, and does effectively, is to *transmit* thrusts. Apart from the comparatively slight pressure which the weight of its upper part exerts against a clerestory wall the function of a flying buttress is mainly that of a stay. Of its two components, the bar above and the arch beneath, it is the former which is of primary importance. The primary function of the arch is, not to transmit, still less to produce thrusts, but simply to support the bar. That the real function of the structure—the transmission of thrusts—belongs mainly to the bar is shown by the fact that in some examples, *e.g.* at S. Wulfran, Abbeville, the arch is turned upside down, *i.e.* is no arch; and yet the flying buttress does its work. M. Planat, indeed, goes so far as to say that the Abbeville architect deliberately substituted a compound curve for an arch, in order to give us an object lesson as to what are the real functions of a flying buttress—"*pour mieux accuser aux regards le rôle d'étai joué par les arcs-boutants.*"

On the other hand, if Gothic really connotes the opposing action of thrust and counter-thrust, we must transfer the title of Gothic to a host of buildings to which Mr. Moore would deny it. The Church of the Jacobins at Toulouse will be strictly Gothic; for it consists of two naves of the same height and span; and the inward thrusts of each vault act mutually as thrust and counter-thrust to one another. So also the Hospital of S. Jean at Angers and the beautiful cathedrals of Poitiers and Bristol become Gothic; in both these the aisle vault is so high and broad that it largely supplies a counter-thrust to the thrust of the vault of the nave. That is not all. The aisles of S. Sernin, Toulouse, are carried two stories high, both vaulted, in the hope, which has been realised, that an effectual counter-thrust will be provided to the thrust of the barrel vault of the nave. The aisles of the nave of Carcassonne (S. Nazaire), though but of one story, are carried high, in order to provide a counter-thrust. The professor's definition, while inapplicable to many churches which all the world has hitherto regarded as Gothic, is applicable then in a very true and special sense to many non-Gothic churches, and is, indeed, the leading principle of construction in the barrel-vaulted churches of the centre and south of France.

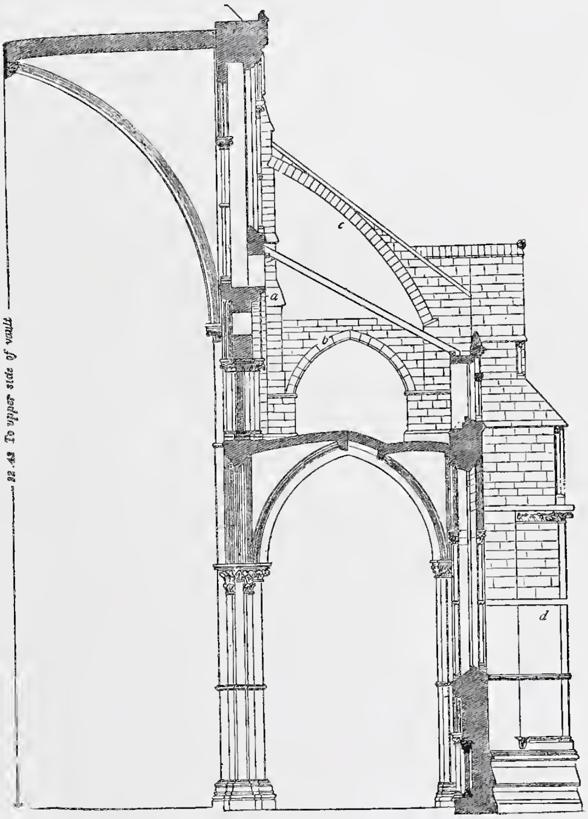


ST. REMI, RHEIMS.

But we may have misunderstood the definition. It is likely enough. Mr. Moore gives no explanation of it. Instead of that he rides off into a long description (pages 18 to 21) of what he calls "the general form and constructive character of a developed Gothic building." A description is at the best a very inadequate substitute for a definition. There are, however, scientific and unscientific descriptions. Mr. Moore's is no more than an *inductio a simplice enumeratione.* So far from being a description of the essential attributes of Gothic in general it is inapplicable to much even of the Gothic of Northern France. It is really nothing more than a description of Amiens Cathedral. Indeed, it would simplify matters very much if the author had plainly said, "Whatever is of the character of Amiens is Gothic; what is not is anathema maranatha." For let us test his detailed description of Gothic. 1. "The plan includes side-aisles." This excludes at once the beautiful Sainte Chapelle at Paris, and that at St. Germer; also King's College Chapel, Cambridge; also the magnificent Cathedral at Albi. They have no aisles; nor have they flying buttresses or opposing thrusts. Therefore they are not Gothic. But if they are not Gothic what are they? Moreover Bordeaux Cathedral has an aisled choir and an unaisled nave; Lichfield has an aisled choir and an unaisled Lady chapel. Are we to say then that Lichfield choir is Gothic, but that the Lady chapel is not? 2. "There is a transept." But this requirement cuts out not only Albi but Bourges also, one of Mr. Moore's special examples of Gothic. 3. And if there is anything more glorious in French Gothic than Bourges it is the choir of Le Mans. But a triforium is necessary. Le Mans choir has no triforium; therefore it also is non-Gothic. 4. A clerestory also is necessary. This cuts out at once Poitiers and Bristol Cathedrals, S. Serge, Angers, and the transept of S. Nazaire, Carcassonne. 5. "Vaults must have no ribs except diagonal, transverse, and wall-ribs." This excludes nearly the whole of English Gothic—*e.g.* Westminster Abbey and Exeter and Lincoln—and much of French work also. Even the immaculate Amiens is not wholly Gothic, for it has ridge-ribs, both longitudinal and transverse, over the crossing. 6. "Each pier is compound." But down the naves of the Cathedrals of Châlons-sur-Marne and Paris the piers are simple cylinders. So they are round many a Gothic apse in the best French examples. In the latter case, therefore, the choir will be Gothic, the apse something else. We need go no further. A description of Gothic which excludes Bourges and Le Mans,

S. Serge, Angers, and S. Nazaire, Carcassonne, Poitiers and Albi, Lichfield and Lincoln, the Sainte Chapelle and King's College Chapel, stands self-condemned. For if these are to be rejected, where is the true and undefiled Gothic to be found? One is reminded of the Scotch peasant who, being asked who were the elect, said it was himself and his wife, but he was not sure of Elspie.

On some minor points it is not easy to agree with Mr. Moore. "In true Gothic," he tells us, "no superfluous features occur" (page 19). But surely every spire is a superfluity. And as for towers, a single tower may be defended, as requisite for the bells; but when it comes to three, five, seven, or even nine towers, as at Laon, S. Denis, Rheims, and Chartres, surely there is a good deal of superfluity. And again, of what use is the arcading below aisle windows? It is quite superfluous. Viollet-le-Duc had indeed a theory to account for it; but what is there for which he had not a theory? The fact is, the Gothic builders were not always the austere and ascetic designers they have been represented to be; sometimes they let themselves go, and indulged in art for art's sake. On page 21 we are told that Gothic arose out of "the need of vast stone-built churches, such as could not be constructed without aisles." As a matter of fact a vast stone-built cathedral was constructed without aisles, and vaulted too, as early as 1150; and there are numerous vaulted hall-churches of early date between Angers and the Mediterranean. On page 27 we hear that "the architectural requirements of the monasteries were of comparatively narrow range, and that the freest exercise of invention could not be called out under the shadow of the cloister." This is indeed to hold a brief for Gothic. The exact reverse is the truth. The requirements of the Monastic Orders were of the very widest and grandest description. Not only did they build in the eleventh and twelfth centuries the most magnificent churches in Christendom—some, like Cluny and S. Martin, Tours, now destroyed; others, like Vézelay and S. Sernin, Toulouse, in perfect preservation—but the buildings attached to a monastery were far grander in scale and more complex in character than those attached to any Gothic cathedral. As for invention, it was the Romanesque—*i.e.* the monastic—builders who invented almost everything. I really cannot lay my hand on any Gothic invention. Pointed arches, ribbed intersecting vaults, flying buttresses, occur in Durham and other Romanesque buildings; pinnacles were set on Romanesque towers and porches. The chief engineering discoveries Gothic builders can lay claim to are that they transferred the pinnacle to the buttress, and set the flying buttress above instead of underneath the aisle roof, at the risk, however, of disintegration by rain and frost. They did but develop and beautify; it was their predecessors who solved the main engineering problems of the mediæval world. As well put Smith, Jones, and Robinson, the patentees of the modern handsome and efficient types of locomotive engines, on the plane of Watt and Stephenson! On page 43 Vézelay is said to be the characteristic type of Burgundian Romanesque. It is just the reverse. If so it would have a barrel vault, as, oddly enough, Mr. Pater, in his paper on Vézelay, said it had. "The Normans (page 45) were not logical designers." It is difficult to understand how the author could come to any such conclusion. A single glance at the vaults and piers of Durham or Peterborough would have shown him that they are logical in the extreme.



SECTION OF CHOIR OF LINCOLN.

The chronology of the new edition needs revision. Mr. Moore's conclusions depend largely on dates, and he might have taken the opportunity of the demand for a new edition to verify and correct the chronology, at whatever expense to his theories. How can S. Germer, which cannot have been commenced before 1140, have suggested transverse arches in the triforium (page 49)? Such arches are found in undoubted eleventh-century work at Chichester, Norwich, and Durham. Much importance is attached by Mr. Moore to Morienval as an early example of

Gothic. But all we know is that the body of St. Annobert was translated into the church in 1122. It is just as likely that the deambulatory of Morienval was built after that date as before it, as M. Anthyme St. Paul points out. The chronologies of S. Germer and of S. Etienne de Beauvais are equally disputable. And on these the conclusions of chapter iii. are based.

The chronologies of English work are also defective. Malmesbury is antedated (page 192) on the strength of an ambiguous passage in the chronicle of William of Malmesbury. Mr. Moore still retains the impossible date of 1175–1200 for the aisle vaults of Peterborough (page 211). He misses the whole import of the work at Wells by attributing it to the years 1206–1242 (page 218), whereas Canon Church has proved that it was commenced by Fitz-Bohun (1174–1191). The invention of ridge ribs is credited to Lincoln; they appear in the transitional work of the aisle of Ripon transept. So again the references to S. Front, Périgueux (page 42) are drawn from a book written nearly fifty years ago, and altogether ignore more recent studies. Once more we hear that it is Byzantine; and that it is an exotic; once more that the other domical churches of Aquitaine are its offshoots, whereas it was one of the last built. Mr. Moore can hardly have visited Périgueux; otherwise he could not have failed to see how much older S. Etienne is than S. Front. It is remarkable that he should ignore the virtual unanimity of recent archæologists as to the date of S. Front. Anthyme S. Paul, Vitet, Brutails, Ramé, Mr. Phenè Spiers all agree that it cannot be earlier than 1120, and that there is nothing Byzantine about it except the plan.

But the essential weakness of the book lies deeper. It consists in looking at mediæval art solely with the eyes of an engineer. Gothic architecture is not merely engineering, it is art also. A great Gothic architect was engineer and artist too. It is in the balance of the two that supreme success was gained. I am willing to admit that the Frenchman was the cleverer engineer; I should be disposed to urge that he not unfrequently sacrificed his art to his science. It was clever engineering, but bad art, to make the voids utterly outbalance the solids; to attenuate the supports so that to the eye the building seems alarmingly unstable; to make the vault rest, or seem to rest, on sheets of glass. To poise six stories of brick on a plate-glass window is not good art in Cheapside; though it may be good engineering. So with Gothic. Such an interior as that of Toledo, with its massive supports, is infinitely more satisfactory than Amiens, St. Quentin or Semur. And though it may be good engineering, it is certainly bad art, to build a grand exterior and leave it for all time blocked up from view by a scaffolding of buttresses, flying buttresses, and pinnacles.

Let me add that the day for exalting any one school of Gothic over another has passed away. No longer in France itself is the architecture of the Ile de France allowed to monopolise the title of Gothic. "To speak of the Gothic of Normandy with Viollet-le-Duc as a patois," says Anthyme St. Paul, "would burn my lips in presence of the cathedrals of Coutances and Bayeux or of the choir of the Abbaye-aux-Hommes. I do not believe that there is in the Ile de France a single building which surpasses or even equals these in grace, in harmony, in purity of line, in combinations as charming as they are unexpected. Still less do I believe that there is to be found in the Ile de France anything more perfect than the delightful interiors of the cathedral of Poitiers, or S. Maurice and S. Serge at Angers, or anything more elegant than the Angevine vault." Let Mr. Moore in the next edition of his book be more generous; let him enlarge the bounds of his definitions, and admit them all, Southern French architecture, together with that of England and Spain and Germany and Italy, into the fold of true Gothic.

Francis Bond.

NOTES, QUERIES, AND REPLIES.

Ruskin, and Loudon's "Architectural Magazine."

From E. W. Hudson [*A.*]—

In reading the notice of the late John Ruskin from the pen of Professor Kerr a chord of memory was struck by his reference to the above publication, the pioneer of magazines and periodicals designed to benefit our profession. Begun in 1834, it lasted five years, and contains in its five volumes the first essays in literature and design of several young men who afterwards made for themselves a prominent position in the ranks of both classic and Gothic practitioners. Even in the early sixties the writer was charmed with its unsigned articles, interested with the record of past events affecting the profession, and in the reviews of books issued a quarter of a century before, while amused with some of the designs in pastrycook-Gothic and Colosseum classic. It was like turning to a story-book from geometry and dynamics, and usual office routine; in those days there was not much choice when the possession of Pugin, Brandon, and such precious volumes loomed only in the distance. The purpose of the magazine was to improve the public taste in architecture, and the editor little thought when he admitted the articles (first in November 1837) on the "Poetry of Architecture," by "Kata Phusin," he was launching the first criticisms and opinions of the greatest Art Critic of the nineteenth century upon the world.

"Modest" the young master may have been, but he was not the less severe, in criticising the work and the taste of his elders—professional men of note—or of the public. In a word, the truth, as he understood it, must be proclaimed; conscientiousness must override compliments. His was no mission to prophesy pleasant things to those sitting in places of honour. It was this intense enthusiasm which led him to write, in the article referred to:—

> "No man can be an architect who is not a metaphysician."
>
> "Monstrosified pepper boxes, Gothic in form and Grecian in detail, in a building nominally and peculiarly *national.*"
>
> "A country whose school of painting, though degraded by its school of meretricious colouring,"
>
> "The streets of our cities are examples of the effects of this clashing of different tastes; and they are either remarkable for the utter absence of all attempt at embellishment or disgraced by every variety of abomination."
>
> "We have parish paupers smoking their pipes and drinking their beer under Gothic arches and sculptured niches."
>
> "We have pinnacles without height, windows without light, columns with nothing to sustain, and buttresses with nothing to support."

The second article is an interesting comparison of the English and French peasant's cottage in their association with natural scenery and national character. He points out that the characteristic of the English cottage is brightness, cleanliness, and neatness; but that the French in losing these points gains picturesqueness, though it is that of decadence and decay. He considers both suit the scenery well. The English cottage and scenery indicate division, snugness, and comfort, matching divided acres and small woods. The French idea, on the contrary, is largeness, breadth, and the bareness of desolation. He continues with "the lowland cottage of North Italy." Simplicity of form, dignity of ornament are its characteristics—"most musical, most melancholy." The succeeding articles concern the "mountain cottage of Switzerland." Neat, raw in colour, destitute of variety of tone; "occasionally picturesque, frequently pleasing. It is not to be imitated, and it can only be employed in mimicry." The Westmoreland cottage completes criticism of that class of building. "The villa" is then dealt with in seven sections. The mountain villa, the Italian villa, the lowland villa, and the English villa, with the principles of construction in all these cases, give rise to one or more articles each. The rough sketches are fanciful and romantic and indicate early following of Samuel Prout.

An essay on cottage chimneys, a general purview of cottage types adapted to varying scenery, Sir W. Scott's monument, constitute the remaining subjects which occupy "Kata Phusin's" attention. The intensity—far removed from that of the well ridiculed æsthetes of twenty years ago—and the earnestness of this young "voice crying in the wilderness" were such that, as we know, even the men to whom "triumphs," as it were, had been accorded by their countrymen did not disdain to step from their cars and seek to place their own laurel crowns upon his head. Truly it is better to be sincere than successful, the ordinary disconnection of these, notwithstanding.

Criticisms by other writers, *e.g.* on designs for the Houses of Parliament, the National Gallery, and other buildings, are interesting. Schemes for street improvements by Mr. Smirke, for Thames Embankment by Mr. John Martin; articles by G. Godwin, E. B. Lamb, W. H. Leeds, R. Mallet, Dr. Ure, J. C. Loudon, editor, add to the interest. Description of works, inventions, reviews, constructional details, and plans of buildings, remarks upon practice, TRANSACTIONS R.I.B.A., &c., are comprised in the volumes.

The criticisms are bold and piquant,[*] "Anti-Vitruvianism" having, for instance, exponents yet more audacious than we hear of to-day among Continental *savants.*

LEGAL.

Contract: Sub-letting: Responsibility for Delay.

LESLIE AND CO. (LIMITED) *v.* THE MANAGERS OF THE METROPOLITAN ASYLUM DISTRICT.

This case, reported in the *Times* of 3rd April, came before Mr. Justice Bigham and Mr. Justice Phillimore, sitting as a Divisional Court, on the 2nd April.

The question arose upon a contract dated 23 July 1895, entered into between the plaintiffs, Messrs. Leslie and Co. (Limited), and the defendants for the erection of a hospital for infectious fevers at Hither Green, Lewisham. A great part of the work had been let out to sub-contractors and experts, including Messrs. Doulton, of Lambeth, and Messrs. Berry and Sons, of Westminster. The question was who was to be responsible for alleged delay on the part of these sub-contractors. The contract between the plaintiffs and defendants provided that the plaintiffs should execute "the works" shown on the plans, including the chimney stacks and heating apparatus mentioned below. The time in which the work was to be completed was two years, and the price to be paid was £210,000. This contract contained the following general clauses:— "33. The managers (the defendants) reserve to themselves the right to employ other parties to execute the works for which provisions are made and to deduct the full provided amounts (*i.e.* the prime cost *plus* 10 per cent. thereon) from the contract sum. In such cases the contractors (the plaintiffs) are to allow such parties every facility for the execution of their several works simultaneously with their own. The managers are to be at liberty to omit any provisional sums or quantities. The contractors are to pay the sub-contractors the amount provided in the contract for such purpose, or less or more as may be certified, and the payments thus made will be considered as work done by the contractors and will be included in the certificate to the contractors next following such payment. No payment is to be made to such sub-contractors except upon the architect's certificate. The contractor is to pay such amount as may be certified from time to time within seven days from the date of the certificate, and should the contractor neglect or refuse to make such payment within the said period the managers shall be at liberty to pay the amount direct to such sub-contractor and to deduct from the contract sum the gross amount which the contractors have included in their estimate in respect of such work and his profit thereon, the amount so to be deducted not being less in any case than such amount so certified. The contractors are to attend with all building trades upon the sub-contractors, which is to include cutting away for the same and making good after the same, and allowing the free use of such plant, tackle, and scaffolding as the contractors may be using for their own purposes. Contracts will during the progress of the works be let to other persons for water and steam mains . . . and other works." The contract also provided for the retention by the defendants of £10,000 as security for its due performance. Alterations and omissions from the specifications were to be allowed and made only on the direction in writing of the architect. Among the works to be erected were twenty-nine chimney stacks, and with reference to them a correspondence took place between Mr. Edwin T. Hall, the architect of the defendants, and Messrs. Doulton, as the result of which a price of £137 10s. for each stack was named. The contract contained the following clause relating particularly to these chimney stacks:—"The contractor shall provide the sum of £137 10s. prime cost for each central stack of flues in large wards above the level of the ground floor. These stacks will be of faience, fire clay, terra cotta, and concrete, and, including hearths, grates, &c., will be supplied fixed, and finished complete by a specialist potter. The contractors are to supply all necessary scaffolding, plant, water, and hoisting." The plaintiffs then communicated with Messrs. Doulton, who undertook to do the necessary work. Part of the claim in the action arose from the alleged delay on the part of Messrs. Doulton in doing this work. A second head of claim arose from a sub-contract for the supply of the necessary steam and hot-water apparatus. The contract contained the following clauses relating particularly to this apparatus:—"The hot water supplies to baths, lavatories, and sinks, except where otherwise specified, the hot water, heating, &c., . . . will be done by specialists, but the contractor is to attend on, cut away for, and make good after them." A sub-contract was made between the plaintiffs and Messrs. Berry & Sons, by which the latter agreed to supply this apparatus for £11,900. It was alleged that Messrs. Berry had also been guilty of delay in executing this work. Owing to these alleged delays the plaintiffs could not complete their works and get the architect's final certificate and payment accordingly. They therefore claimed damages on the footing that there was an obligation upon the defendants to see that the work was done by the specialists and sub-contractors within a reasonable time. The claim was referred to an Official Referee, who considered the contract and voluminous correspondence involved in the case. Counsel for the defendants asked the learned Referee to non-suit the plaintiffs on the ground that Messrs. Doulton and Berry & Sons were sub-contractors with the plaintiffs, and any claim for delay lay against them and not the defendants. The learned Referee refused to non-suit, and this was a motion by way of appeal from that refusal.

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[*] *Query,* Who was "Candidus," one of the boldest and most prolific of the contributors?

Mr. English Harrison, Q.C., and Mr. Herbert Smith, for the defendants.

Mr. R. M. Bray, Q.C., and Mr. T. Ribton, for the plaintiffs.

Mr. Justice Bigham, in giving judgment, said that the contract contained an undertaking by the plaintiffs to execute the works, which, in his view, meant the whole works to be done in accordance with the specifications, including the work actually done by Messrs. Doulton and Berry. The definition of "works" in the contract was wide enough to cover the works in question. The contract contained a clause by which the defendants reserved to themselves the right—that is to say, the option—to employ other parties to execute the works for which provisions were made. That would enable them to employ Messrs. Doulton and Berry. But this option, in his Lordship's opinion, the defendants did not exercise, but left the obligation on the plaintiffs to execute these works: in other words, they left the plaintiffs to enter into sub-contracts with these specialists. The difficulty in the case arose from the provision that "contracts will during the progress of the works be let to other persons." In his Lordship's opinion that did not amount to an undertaking that the works should be let, but merely a statement of what would become a fact and was in contemplation of the parties. They foresaw that a contract would have to be entered into with other parties, possibly by the defendants, and provided that, in connection with such contracts, the plaintiffs should give the sub-contractors full opportunity to carry out their works. Therefore it was the duty of the plaintiffs to enter into the contracts with these specialists. The defendants might have to indicate the specialists and arrange contracts which should be within the specification; but having done this the obligation of the defendants was discharged. It was then the duty of the plaintiffs to see that the contracts contained clauses and provisions which should either enable them to complete their works within the specified time or should specify penalties in the nature of damages to compensate the plaintiffs if, through delay of the specialists, the plaintiffs were unable to carry out their contract with the defendants. If the plaintiffs had failed to protect themselves in this way, it was a misfortune which they must bear themselves. It followed that the plaintiffs could not saddle the defendants with the consequences of the delay by the specialists, and the learned Official Referee ought to have held that these damages were not recoverable.

Mr. Justice Phillimore concurred.

MINUTES. XI.

At the Eleventh General Meeting (Ordinary) of the Session 1899–1900, held Monday, 2nd April 1900, at 8 p.m., Mr. J. M. Brydon, *Vice-President*, in the Chair, with 20 Fellows (including 9 members of the Council), 26 Associates (including 1 member of the Council), and visitors, the Minutes of the Special and Ordinary Meetings held 19th March [*ante*, p. 240] were taken as read and signed as correct.

The following Associate attending for the first time since his election was formally admitted and signed the register—viz. Reginald Henry Spalding.

The Hon. Secretary announced the decease of the following members—viz. Frederick William Stevens, C.I.E., and Edward John Lowther, *Fellows*; Charles Henry Purday and William James Anderson, *Associates*. Upon the motion of the Hon. Secretary a vote of condolence with the nearest relatives of the deceased was ordered to be entered on the Minutes.*

Papers on Working-Class Dwellings by John Honeyman, R.S.A., Henry Spalding [*F.*], W. E. Wallis [*A.*], and Owen Fleming [*A.*] having been read and discussed, a vote of thanks was passed to the authors by acclamation.

The proceedings then closed, and the Meeting separated at 10.35 p.m.

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* Since the Meeting news has been received of the death of Mr. William Kidner, *Fellow*.

THE PROTECTION OF PUBLIC BUILDINGS FROM LIGHTNING.

By Killingworth Hedges, M.Inst.C.E.

Read before the Royal Institute of British Architects, Monday, 23rd April 1900.

I HAD the honour of reading a Paper before your Institute in 1884 on "The Fire Risks of Electric Lighting," and of pointing out the possible dangers of introducing electricity into houses unless precautions were taken to prevent energy in the form of heat being generated in the wrong place through bad joints or loose connections, and the necessity of employing conductors of sufficient area, lest their overheating might also cause a fire. Owing to the very complete rules of the different insurance offices and of the Institution of Electrical Engineers, the actual risk from the first cause is almost a negligeable quantity if these rules are strictly adhered to, and with suitable conductors excess current is entirely prevented by the use of the safety fuse, which Mr. Edison in America, and I think I may also take some credit to myself, brought into notice in the very early days of electric lighting.

Shortly before I had the pleasure of last meeting you, a very interesting Paper was brought before the Institute, on January 21st, 1884, by Colonel the Hon. Arthur Parnell, entitled "The Action of Lightning Strokes in regard to the Metals and Chimneys of Buildings." The author carefully analysed many disasters occurring to buildings fitted with lightning-rods, and showed that there were 828 separate instances of mechanical force exercised on various substances as against only 228 of heat. I quote the following extract: "Most persons would doubtless imagine that dry woodwork was more likely to be charred or burnt than to be forcibly rent without a mark of scorching; but the reverse is the case. Also in respect of metals, few would believe that this agency was more apt to break or bend metals than to fuse them, but this is the fact. In regard to the direction of the mechanical force on 34 per cent. of the incidents, evidence is furnished of a more or less upward direction."

Without desiring to endorse the whole of Colonel Parnell's suggestions as to the means of protection to be adopted, I wish to place on record that he was probably the first to state that a metal rod run up the most prominent portion of a building offers a very small protection to the whole structure, and if one turns to the more recent Paper of Dr. Oliver Lodge, F.R.S., which was read before the Institution of Electrical Engineers on April 25th, 1889, it will be seen that the Professor states "that the problem does not end with the actual rod, as the current passing through it at the instance of a flash is so enormous that a very high difference of potential exists between the conductor and the earth, however well the two are connected; hence great circumspection must be exercised as to what metallic conductors are brought near or into contact with it. If one end of a rain-water gutter is attached to a struck lightning conductor, the other end is almost certain to spit off a long spark unless it is also metallically connected to earth."

Also Professor Kirchoff, of Berlin, writes:* "The mechanical effect of an electrical discharge is greatest where the electric fluid springs from one body to another. Where the lightning leaves the conductor its mechanical effect is again exerted, so that the rod is torn, melted, or bent."

The report of the Lightning-rod Conference, printed in 1882, includes, besides the very useful rules which have been more or less adopted throughout this country up to the present time, also a history of disasters of all kinds occasioned by lightning. Unfortunately for those who, like myself, have been studying the question, there is no official report on the effect of lightning strokes on buildings protected by conductors since those published by the Conference. It is with a view of hearing the valued opinions of the members of the Institute, who, in their capacity as architects, have more opportunity of being practically acquainted with the subject than engineers, that I have brought this Paper before you this evening.

Before commenting on what might be termed "The Art of Protecting Buildings," a short digression may be allowed on the subject of the thunder-cloud.

For a definition of the phenomenon I have turned to an old Encyclopædia of 1820. "Lightning, a bright and vivid flash of fire suddenly appearing in the atmosphere, and commonly disappearing in an instant, sometimes attended with clouds and thunder and sometimes not." It has been the custom, in even modern times, to illustrate a flash of forked lightning by zigzag strokes, which appear to be darting out of the heavens in all directions towards the doomed ship as it heaves on the billows. Curiously enough, the ancients do not appear to have represented the actual flash, but to have made thunder and lightning an attribute of the gods; thus Jove's thunderbolts are often mentioned and usually depicted by the old masters as darts held in the hand ready to be hurled. At the Dorian Palace, Genoa, instead of these being of the usual form, they are more like rods surrounded throughout their length with lambent tongues of fire. In the time of the Romans lightning was much observed in augury, and was a good or bad omen according to the circumstances attending it. Persons killed by lightning, being thought hateful to the gods, were buried apart by themselves, lest the ashes of other men should receive pollution from them. It is said that they were generally buried where they fell, probably from the reason now universally accepted that decomposition sets in very quickly in the bodies of those killed by lightning, even preventing, in case of sheep or oxen, their carcasses being dressed for market. The Romans had also the good sense to avoid places struck by lightning, which were often fenced in, so that no one could use the houses on which Jove had set the mark of his displeasure. To this day the same buildings are struck from time to time, and certain localities are visited by thunderstorms more than others. This knowledge is taken advantage of by the witch-doctors of South Africa, who are said to stand fearlessly on a certain spot during a terrific storm; in the immediate vicinity it would probably be very dangerous to do so, because the large amount of minerals in the rocks might concentrate the lightning discharges.

In parts of Natal the author is informed that thunderstorms are, during certain months, of daily occurrence and extremely violent; the natives will not pasture their cattle in some districts, accidents being of such frequent occurrence. A photograph appeared in one of the magazines a short time ago showing about twenty oxen lying dead along the line of an iron wire fence, thus practically illustrating what is one of the objects of this Paper—to bring before the Institute the surging effect of a lightning flash, which may cause great damage. That these cattle were killed by a side-flash from the line of the fence may be inferred from an incident mentioned at the discussion on Lightning Conductors before the British Association in 1888. A number of horses placed in a row were struck by a lightning discharge, the first and the last of the row being killed, while the others were not touched; and people who at a lecture sit in a row holding hands and experience a shock from a Leyden jar, always state that the two end persons feel the shock much more than those in the middle.

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* Quoted in the *Building News*, 10th September 1880.

Our lightning conductors, as usually now arranged, do not guard against what Dr. Lodge has termed "the spitting action" at all; they may act very well as taps to discharge or quietly pass off on to the atmosphere the "induced electricity from the earth and from the buildings upon it," but as lightning protectors they are so arranged that, if actually struck by a flash, besides damage to the conductor the building would, in all probability, be set on fire, and there is every chance that a portion of the electric current would be diverted into unearthed metalwork, and in its tortuous course to earth would be very destructive. For instance, at Brussels a bar of metal, totally disconnected from anything, not pretending to lead to earth, and being some little distance below a lightning conductor, not offering itself to be struck, as a matter of fact was struck and a slight fire caused.*

We have only to turn to the examples quoted in Colonel Parnell's Paper, which are mainly those collated by the Lightning-Rod Conference, to see that the whole report was bristling with failures of lightning-rods; and the sooner we get rid of the popular fallacy that a properly constructed lightning-rod never fails, our public buildings will be placed in a better state of protection.

During thunderstorms the atmosphere and all conducting objects in the immediate neighbourhood become charged with electricity at a constantly increasing potential or intensity as we recede from the earth. It is stated that at the top of the Washington Monument a potential of 3,000 volts has been measured, and at the top of the Eiffel Tower 10,000 volts. Even objects directly on the earth, such as railroad tracks, high fences, &c., become charged, and in the high altitudes of the west of the United States wet rocks frequently show signs of electrostatic charge. All such charged objects will spark, and the author has, on the high plateaux of Colorado, frequently drawn sparks from even the posts and rails used for fencing.

The characteristics of a flash of lightning which more particularly concern us are: (1) Surging; that is due to the oscillatory character of the spark, which, unlike the currents employed for conveying electricity to a distance for lighting cities or driving tramcars, is a disruptive discharge, sudden and violent, more like the blow of a hammer. (2) Self-induction, a property which gives rise to counter force or choking effect, noticeable in straight wires, but which is much more pronounced in coils of wire. (3) Side-flash, the result of self-induction. A disruptive discharge will often leave what would ordinarily be called an excellent conductor, and side-flash through the air to other much worse conductors; for instance, the lightning-rod may be struck, but, instead of following the course provided, a side-flash may select its own path through a wall of brick or stone, to a neighbouring gas-pipe or bell-wire. The often-quoted example of this danger is the accident at All Saints' Church, Nottingham, about 1870, when the discharge passed from the lightning conductor through a solid wall of masonry four and a half feet thick to a gaspipe.

Electric induction takes a prominent part during a thunderstorm, and it is this which determines whether a disruptive discharge takes place between a cloud and the earth, or between two clouds or layers of a cloud.

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* See *Bulletin de la Société Belge d'Electriciens*, 1888.

In the following diagram (fig. 1), C represents a highly positively electrified storm-cloud when it comes within a certain distance of the earth, E, which distance has been estimated by different authorities from 1,000 to 20,000 feet; it causes, by induction acting through the vapour, particles A of the intervening air, the earth beneath, and everything thereon to become intensely negatively electrified, the area of the earth which is thus electrified by induction being approximately the same as the area of the clouds in which the electricity is greatly accumulated. When the attraction between the positive electricity of a cloud or clouds and the negative electricity of the earth, or *vice versâ*, is able to overcome the resistance offered by the intervening air, a discharge takes place and equilibrium is restored. According to Mr. Spang, whose diagram is now produced, when a downward discharge occurs at one point, through the power of electric induction at another point which may be several miles away, a corresponding discharge occurs in the reverse direction, as shown (fig. 2).

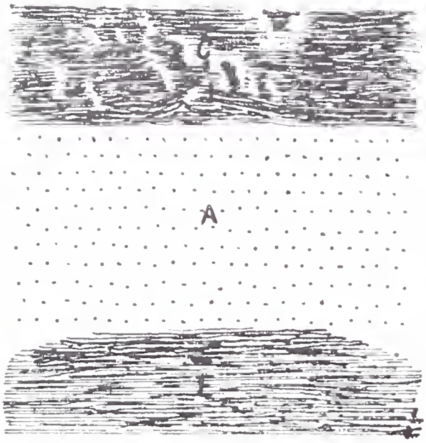

FIG. 1.

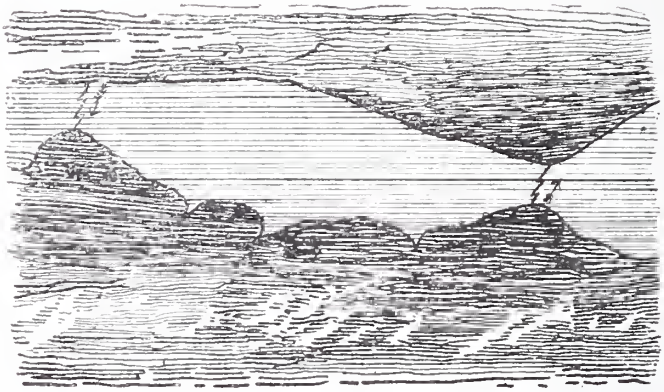

FIG. 2.

In confirmation of this supposition, I may say that frequently on the plains of Colorado, during the thunderstorm which is of daily occurrence during certain months of the year, I have seen a flash arising from the ground very much as shown in the diagram fig. 2.

ST. PAUL'S CATHEDRAL.

Time will not allow us to follow this subject. The question which interests us at the present time is: Are our public buildings efficiently protected? Several have lately come under the notice of the author, but it will be perhaps sufficient to review the methods formerly adopted for the protection of St. Paul's Cathedral. In 1898 the author was asked to report on the condition of the lightning conductors, which were, he was informed, put up in the year 1872, having taken the place of the original system, erected under the advice of the Royal Society about 144 years ago. The new series were considered at the time as examples of the most advanced system of protecting our national cathedral from disaster from lightning; the spire of old St. Paul's having been partially damaged from this cause three times, at last it was set on fire in the reign of Elizabeth, in 1561, and totally destroyed. It is interesting to note that the Lightning Rod Committee, which was formed in 1875, among whose members were delegates from the Royal Institute of British Architects, appears to owe its formation to inquiries made by the Dean and Chapter of St. Paul's.

EXTRACT FROM THE REPORT.

‘The conductors throughout are of $\frac{1}{2}$-inch stranded copper. Four such conductors pass from the iron supports of the cross, down the outside of the dome, branching off into eight conductors, which are cross-connected by the railing of the gallery, and lower down again are united together, the eight conductors being carried down to the ground, as indicated on the accompanying plan. Each tower has two conductors, with a cross connection, the four conductors being carried to earth as shown. There is also a single conductor which passes over the ridge of the choir to an earth on either side.

“The above system was no doubt considered to be an efficient one at the time the work was carried out, but, according to more modern ideas, it is open to serious criticism, and I would call attention to the following points :—

“*Dome.*—(1) In metallic connection with the cross there are several iron straps passing down inside to the level of the gallery, where the ends apparently disappear in the stonework. This, in my opinion, in conjunction with the fact that the four conductors do not appear to be soldered to the iron supports of the cross, is a source of danger, as the electric discharge is liable to pass down these iron straps and discharge through the stonework with disastrous result.

“*Statues.*—(2) The statues on the three sides of the building are not protected.

“*Choir.*—(3) The conductor over the east end of the building affords little protection, as it crosses the roof some twenty feet from the end and has no projecting point of any kind.

“*Towers.*—(4) In view of the great mass of metal in the towers, I do not think the present conductors are sufficient.

“*Earths.*—(5) As regards the earth connections, the conductors were originally laid in a brick sewer passing round the building, now unused, but alterations have since been made, the conductors being either inserted in or outside the earthenware pipes laid in the brick sewer, and in nearly every case quite insulated from the earth [fig. 3].”

Tests were made of the resistance of the so-called earths, and actual measurements were given. A later examination showed that the cables do not make good electrical connection with the iron framework of the ball and cross, but are connected to a circular piece of cable which has been led round the ball, and from this the actual conductors descend until they meet the system previously described as lying on the dome.

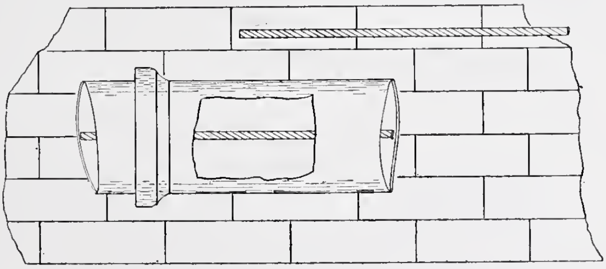

FIG. 3.—PLAN OF OLD CONDUIT, SHOWING EARTHENWARE DRAIN, IN WHICH CONDUCTORS WERE DISCOVERED.

The joints were in every case simply wrapped and unsoldered, consequently they had become in many instances quite loose, and almost everywhere the electrical connection would be of high resistance by reason of the oxidation of the copper. The work had evidently been executed with care, as the ends of the cable forming the earths, when the drain round the structure was in use, were probably always kept in running water, and the insertion of these ends into or around the drain pipes was carried out at a much later date. Generally this installation may be considered an average specimen of the method adopted for protecting our public buildings ; if, since these installations were made, the joints have not been renewed and earths carefully tested, the coefficient of safety has probably greatly diminished, and although one sees the usual array of rods, spikes, and so-called conductors, their utility as electrical appliances is practically *nil.* The reason we do not hear of more disasters is partly due to good luck, and also to the fact that most of these buildings are in large towns, and the warm air ascending from the numerous chimneys in the vicinity helps to lessen the violence of thunderstorms; but should a direct flash strike an insufficiently protected edifice a disaster may occur, similar to the accident at Rockliffe Church in Cumberland, where about fifty feet of steeple was destroyed in a thunderstorm last November.*

Before proceeding to describe the methods adopted by the author for the better protection of St. Paul's, it is proposed to give a short account of Continental practice and to refer to some of the installations which the author has recently visited.

NOTRE-DAME CATHEDRAL, PARIS.

The main conductors are three in number; each of the two on the towers commences at massive wrought-iron terminal rods, say about 20 feet high, 4 inches square at base; to this a solid iron rod, about 1 inch square, is secured by straps and run in lengths jointed at intervals over the roof and outside the tower to the ground, being supported about 7 inches from the lead roof and stonework by stanchions, insulated by half-round stone or porcelain insulators secured by shackles. At some later period, probably during the restoration of 1866, a copper strip had been connected to each of the conductors at the roof and run independently to the ground below. The spire has an elaborate finial with numerous points, and this appears to be connected to earth in the manner previously described, also to the crest which runs along the ridge of the roof.

The method of protection is now a source of danger; a flash received by one of the main rods has two paths open, one by the high-resistance old iron conductor, and a second by the new copper band; the current is prevented from dispersing over the lead roof by the insulators of the conductors; therefore the resistance of the joints (probably very high) will cause it to side-flash from the central rod to the small copper band, and that portion which passes down the iron rod will have this surging or jumping tendency increased by self-induction and the proximity of the better conductor, the copper band. It is assumed that the latter has a good earth connection; if this is not so, the magnitude of the damage will be very much enhanced.

COLOGNE CATHEDRAL.

The protection of this celebrated edifice is far more advanced than that just noticed; in fact, from the cursory inspection made by the author, the work seemed to be very carefully executed, and of a design which might be followed with safety. Stranded copper cables are used, and these invariably run through galvanised-iron stanchions with flat feet, by which they are bolted to the stonework; to avoid galvanic action setting up between the iron and copper, the eyes of these supports are bushed with lead; they keep the conductor about 7 inches away from the structure, or sufficient to enable the cable to be stretched tight and not run round projections in the manner we are accustomed to see here; for this purpose there are tightening screws at several points. A somewhat similar arrangement is used for the horizontal conductors, which run each side of the roof, being kept well away from it.

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* Rockliffe Church, struck 7th November 1899. The lightning appears to have struck the steeple close to its base; it rested on a tower 50 feet high, and itself was about 50 feet. The masonry toppled over on to the roof of the nave, which is high pitched and covered with Westmorland green slates. The bulk of the *débris* fell through the roof and caused a pile about 20 feet square, 10 feet high. The two stained-glass lights at the entrance were forced out by the shock or compression of the air. Stones were hurled to a great distance; one was found on the roof of a house 100 yards away. The lightning also struck the iron railings on the west side of the churchyard, and destroyed the boundary wall. The spire cost £1,000 to erect, and the damage to the rest of the church was estimated at £1,000. An old out-of date lightning rod was run up the steeple.

The terminals of the lightning rods are almost always plain spikes, without branches; but a building has many of these, both on the highest portions and along either the tops of the walls or ridge of roof, the whole being connected together by the horizontal conductor, which is usually run in the method described. A timber shed near Frankfort had these vertical rods about 15 feet apart; and a petroleum storage tank at intervals all round its circumference.

THE PALAIS DE JUSTICE, BRUSSELS.

Through the courtesy of the architect, M. Engels, I had an opportunity of inspecting this magnificent structure, and also obtaining information of the most recent adaptation of the system invented by the late Professor Melsen.

It is hardly necessary to go into the details of the installation at the Palais de Justice, as it is very similar to that at the Hôtel de Ville, which has been described in the text-books. Briefly, the Melsen system consists of a network of metal rods connected together at the top and furnished with an aigrette or bundle of eight 4 mm. copper rods spread out like a feather, so that after passing along the roof the terminal points project so little that they can hardly be seen from below, but yet break up the area of the building so as to leave little space unprotected. Copper is used for the conductors; but where they descend, a special iron box is employed, in which they are embedded in zinc, and from this the down rods can be continued in iron and also connected to the rain-water pipes and other ironwork of the building. The provision for earth connection is very ample in the case of the Hôtel de Ville. There are twenty-four iron rods two-fifths of an inch in diameter; of these eight are fastened to the spigot of an iron pipe two feet in diameter, which is suspended in a well in the courtyard; another third is connected with one of the principal iron mains of the water supply of the town; and the remaining series are taken in a similar way to a large iron gas main.

That the earth connection is efficient may be gathered from the fact that the Palais de Justice was struck soon after completion, and that no more damage was done than the partial fusion of some of the points of the aigrette which received the flash.

The Melsen system has been used to a certain extent for the protection of the public buildings in Paris; but French architects seem to prefer the long single point, probably because it is more easily adapted to the elaborate weather vanes and finials which are so largely used, presumably for the embellishment of buildings of importance. The standard rod or *tige* is 6 mètres high; the diameter at base about 0·060 mètre, tapering to nothing at the point; the rod is firmly connected with the woodwork of the roof as shown in the diagram [fig. 4]; and the copper or iron conductor is fixed at the base by means of a shackle. The conductor is usually kept away from the building by means of supports, and is very carefully led into moist earth, or, in the case where the foundation is of rock, connected to a network of wires which run for a very considerable distance under the surface, with the idea of obtaining as large an area as possible.

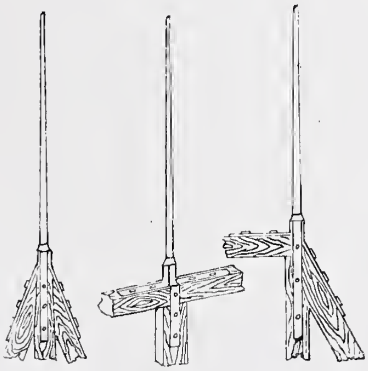

FIG. 4.—POINTS, SHOWING CONNECTION TO TIMBERING. FRENCH METHOD.

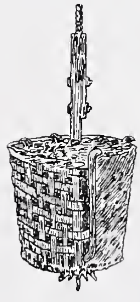

FIG. 5.—BASKET EARTH, USED IN WELLS. FRENCH METHOD.

Where a well can be used, the earth connection is prepared by plaiting up galvanised-iron strips so as to form a basket, which contains a sort of grapnel attached to the conductor, the basket being filled with coke and lowered into the water (see fig. 5).

AMERICAN PRACTICE.

The "lightning-rod man" is well known to all settlers out West, and his pertinacity in introducing his wares has made his profession a synonym for "smartness." As a rule the protection afforded is very small. When the author was engaged in railway engineering in the United States he often found the end of the wrought-iron rod to be simply driven a short distance below the surface of the ground, without any attempt to make a good earth connection; but unfortunately, in one case, the investigation was not made until his office had been set on fire, and the insurance company disputed the claim on the ground that "the risks from lightning were not included in the policy." Now in most cities a much better method is adopted. A round iron rod about half an inch in diameter extends from the ridge of the metal roof about four feet above the top of the chimney or other elevated projection; its lower end is connected to a piece of iron in the form of a saddle, which is soldered to the metal roof; to this also is joined the top of each rain pipe, or, where the gutters are below the roof, special tinned-iron straps connect the two. The rain-water pipes have to be tightly fitted together, and it is said that each pipe 4 in. diameter is equal in capacity to an iron rod $\frac{9}{16}$ in. diameter. The connection between the pipe and the earth is made as follows: Above the elbow portion a galvanised socket is fitted, and to this is soldered a flat bar which is led directly to the nearest water pipe or to the earth. The form which seems to give the best results is constructed of a pipe driven into the ground so that its perforated end rests in moist earth; its upper end is left about six inches below the surface, thus it can be watered artificially or by the rain. To assist the collection of moisture a larger sleeve is placed outside furnished with a perforated top and set flush with the gutter. With slate or wooden roofs, bands of tin plate or galvanised iron are often placed underneath the slate covering and laid on the rafters of the roof, being connected at the top with the "air terminal" conductors, and below with the gutters and rain-water pipes as previously described; in the case of a Mansard roof the sheet metal or flushing is also connected to the system. It is stated that if all the connections are properly made, so as to secure good electrical connection between themselves, the rain-water pipes, and the earth, there is no liability whatever of the woodwork or other material about the roof being set on fire or damaged, or any person beneath the roof being injured by the electricity in a lightning discharge while passing through the combination on its way to earth.

THE REARRANGEMENT OF CONDUCTORS AT ST. PAUL'S CATHEDRAL.

The plan recommended by the author, taking into consideration the large amount of copper cable already disposed about the building, was, first, to run three new cables from the metal-work of the framework supporting the cross to the roof of the dome (making inter-connection with the iron supports of the structure); there connecting them with the eight existing conductors, and reuniting them at the base of the dome to the existing system, which is increased by running a new half-inch seven-ply copper cable on the top of the parapet entirely round the building. From this horizontal conductor, aigrettes, consisting of five pointed copper rods, were teed at intervals by means of special brass boxes tinned inside, into which the cable was placed, the aigrettes first secured by binding, and the whole united by running in hard solder. Wherever practicable, this method of uniting the conductors would be adopted, and boxes were prepared suitable for crossings of almost any angle. However, in consequence of the exposed position, and the rule against open fires or blow-flame lamps, many of the joints have to be made by soldering, this method not possessing the advantage of poured joints, as in course of time, no matter how intimate the surfaces are, oxidation is sure to take place.

Great difficulty was found in securing efficient new earths. Two sets of conductors were, one, united to the hydraulic main supplying power to the organ, and the other to the 8-inch water main; this joint was made by cleaning the outside, then wrapping the strands of the conductor around it, enclosing the whole with a metallic clamp, which was filled with molten lead and screwed up tight.

The present cathedral is surrounded by the foundations of the previous structure, so that not only is the ground very dry, but it is difficult to make a small excavation through the *débris*.

The perforated wrought-iron pipe [fig. 6], furnished with a steel shoe, was, after some trials, sunk to the requisite depth to secure moist ground; the stranded conductor was dropped in the pipe, being soldered to the cap at top, and shielded from injurious electrolytic action by wrapping it in a lead tube. The pipe has a bend at the upper end which projects above

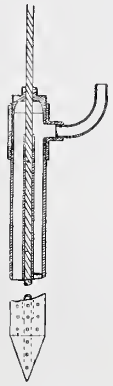

FIG. 6.—TUBE EARTH WITH CONDUCTOR.

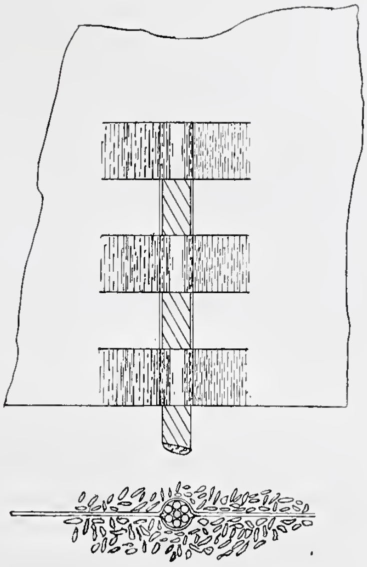

FIG. 7.—PLAN AND SECTION OF EARTH PLATE SHOWING CONNECTION TO COPPER CABLE.

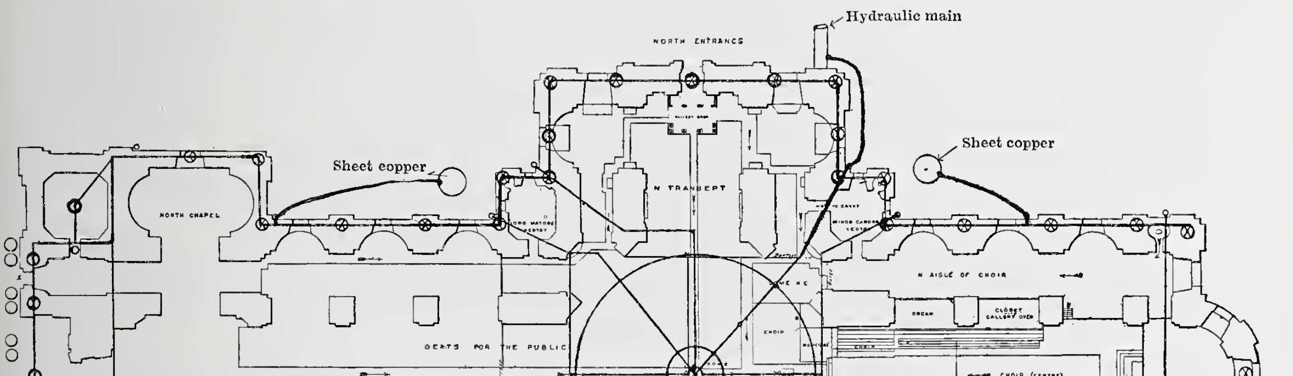

FIG. 8.—PLAN SHOWING THE LIGHTNING-CONDUCTOR INSTALLATION AT ST. PAUL'S.

ground, and is closed by a plug so that water can be poured down. There are other earths of ordinary copper plate buried in a mixture of charcoal and broken electric light carbons [fig. 7], and the old system of conductors is also attached to all these new earths; and it is also proposed to establish connection with the ends of the rain-water pipes, where they look out of the stone wells down which all the conductors are led. The general arrangement is shown on the plan [fig. 8].

The installation should not be taken as a model one, except perhaps with reference to similar ecclesiastical structures, which do not lend themselves very readily to the improved methods of protection, such as the author would recommend for all new public buildings. It is almost impossible to draw up a set of rules to be universally applicable; each building should be carefully studied, first, as regards its position with neighbouring structures; secondly, as to the disposition of the metal employed; and, thirdly, with reference to the subsoil and its suitability for earthing the conductors.

PRACTICAL QUESTIONS.

The author will conclude this Paper in the same way as that read by Professor Oliver Lodge before the Institution of Electrical Engineers in 1889, and reproduce some of the statements made at the time, with further suggestions of his own, with the view of elucidating what improvements in the erection and testing of lightning conductors are possible.

1. (*Prof. Lodge*).—All parts of a lightning conductor, from points to roots, should be of one and the same metal, to avoid voltaic action.

2. (*L.*).—Joints should be avoided when possible, and should be made substantially where necessary; sharp bends and roundabout paths to earth should be avoided as far as possible. A conductor detached from the building is safer than one in close contact with it.

3. (*Author*).—The conductors should be kept a short distance outside the building, by means of supports; these must not be insulated. If joints are necessary, the stranded wires must be spliced and soldered. Tee and other connections, also the union of air terminals or aigrettes to the cable, should be made by splicing or carefully binding, and then protecting the joint by a metal box, which is to be filled with hard solder.

4. (*L.*).—Liability to be deflagrated by a powerful flash determines the minimum allowance for size of cross-section.

5. (*A.*).—It is better to have a standard size throughout, and a cable of sufficient area to withstand rough usage; also the wires or strands should not be too small or they may become brittle with age. A solid conductor may be used, but not a tubular section.

6. (*L.*).—The use of copper is a needless extravagance; iron is as good.

7. (*A.*).—Lightning conductors are costly to renew: iron perishes quickly, copper very slowly; therefore use the latter. Rod is better than flat ribbon, but a stranded conductor is more convenient.

8. (*L.*).—It is not wise to erect very tall pointed rods above the roof of a building; a number of points above the ridge is better than only a few. Any part of a building is liable to be struck; and, to make quite secure, every prominent part of the outside should have a rod running along it.

8[1]. (*A.*).—This horizontal conductor should be furnished with air terminals, preferably in the form of fleur-de-lys or aigrettes at distances proportional to the area to be protected. The terminals should be well pointed, but need not be plated or tipped.

9. (*L.*).—The orthodox rule "Connect all pieces of metal to the lightning conductor"

requires modification, thus: "Connect all pieces of metal to each other and to the earth, but not to the lightning conductor."

9[1]. (*A.*).—Earth all rain-water pipes, gutters, &c., independently of the lightning conductor.

10. (*L.*).—A good and deep earth should be provided independent of gas and water mains, but if the conductor at any part of its course goes near gas or water mains, it is best to connect to them. Where gas and water mains come near each other, it is best to connect them together metallically.

10[1]. (*A.*).—Take care before connecting to water and gas mains that they have leaded, flanged, or screwed joints, and not caulked with red lead and oakum; also avoid the neighbourhood of small-bore fusible gas-pipes, and indoor gas-pipes in general.

11. (*A.*).—After selecting a suitable place for the earth plate or earthed tube, arrange for keeping it moist either by watering or causing a rain-water pipe to discharge in the neighbourhood.

12. (*A.*).—Protect the metallic conductor where it leaves the ground, both from accidental or malicious injury, and from the natural deterioration which will in time take place.

13. (*A.*).—Protect all flagstaffs by a conductor projecting a few inches above the top; if the pole is on a metallic roof this should also be connected to earth.

14. (*A.*).—Test at intervals not greater than one year.

In conclusion I would warn those who have to specify the method of protection to be adopted not to put any faith in the generally received opinion "that a certain space contiguous to a lightning rod is completely protected by it; so that if the rod is raised high enough, a building in this protected region is safe." There is nothing more illusory, as there is no space near a rod which can be definitely styled an area of protection, for it is possible to receive violent sparks or shocks from the conductor itself, not taking into account the phenomena which I have endeavoured to explain under the head of Surging and Self-induction. The best that can be said in favour of the present system of lightning conductors is that they afford incomplete protection, and are far from being efficient; fortunately they are generally ignored by the thunderstorms, otherwise more interest would be taken, and you would not simply insert at the end of your specifications the words "Provide a proper lightning conductor," as if, as the author of the last Paper on this subject remarks, "a lightning conductor was a sort of fetish charm or quack specific warranted to cure all thunderstorm plagues."

I trust that you who are so experienced in these matters will consider the facts and suggestions I have brought forward as objects worthy of attention and further inquiry.

⁂ The Paper was further illustrated by slides giving views of St. Paul's, Westminster Abbey, Notre Dame and Cologne Cathedrals, and Rockliffe Church; also of lightning discharges showing, first, the popular representation of a flash of lightning, followed by others taken from photographs of actual discharges. These were lent by the Royal Meteorological Society. On the table were specimens of the fittings designed by the author for St. Paul's Cathedral, and exhibited by the manufacturers, the Carboid Company, of Westminster.

DISCUSSION OF THE FOREGOING PAPER.

The President, Mr. William Emerson, in the Chair.

Mr. WILLIAM MARRIOTT, Secretary of the Royal Meteorological Society, who rose at the invitation of the President, said that the Royal Meteorological Society was very much indebted to the Institute for having taken part in the Lightning-Rod Conference held in 1878 and following two or three years. Professor Hayter Lewis and Mr. Whichcord represented the Institute at the Conference, and they with their colleagues devised and drew up the Report of the Lightning-Rod Conference. That Report was still, he believed, the standard work on the subject, and if the instructions given there were followed the best protection would be afforded to buildings. The manner in which the lightning rod should be placed outside the building, so as not to destroy the artistic effect, was, of course, a matter for the architect to determine. Lightning, to give a later definition than that quoted from the old Encyclopædia of 1820, was the visible discharge of electricity between one group of clouds and another, or between the clouds and the ground, during thunderstorms; and the object of lightning conductors was to carry off the electric discharge. He had been very interested in investigating thunderstorms. All must have been charmed and many fascinated by watching displays of lightning with the ordinary flashes; but some flashes were still more fascinating. The apparent flickering nature of lightning was often to be noticed; if photographs were taken of this lightning in two ways—first, when the camera was fixed, one flash only would be visible; but if the camera were not fixed but moved, then two or more precisely similar flashes would appear on the photograph. Dr. Hoffert, experimenting with a camera swinging backwards and forwards, got a number of flashes. They were a considerable distance apart, and precisely similar, with streaks going from one flash through the same prominent parts in the other flashes. The streaks indicated that these flashes were luminous for a longer time than lightning was usually supposed to be. A flash of lightning was supposed to last only an extremely small fraction of a second; but on these occasions the lightning was of sufficient duration to produce a streak along the plate, and these flashes all followed the same path. That would not have been apparent if the camera had been fixed. [The speaker went on to describe various curious effects observable in photographs of lightning displays taken by a camera held in the hand, and not kept rigidly fixed.] Speaking of thunderstorms, a subject which the Royal Meteorological Society had been investigating for some years, they were, Mr. Marriott said, simply miniature cyclonic disturbances. Cyclonic disturbances might perhaps reach a thousand miles or more in diameter; but these little thunderstorm disturbances might be only two or three or ten miles in diameter, yet the circulation round them was precisely the same as in a big cyclonic disturbance; the wind went round in the same way, the temperature observed the same law, *i.e.* rising in front and falling behind, and the barometer fell at first and afterwards rose, just as in a cyclone. [In illustration of an exceedingly interesting description which Mr. Marriott then gave of his investigations into the phenomena of thunderstorms, he showed a series of slides representing lightning displays, charts of various forms of cyclonic and anti-cyclonic systems, barometrical records of storms, and charts of their track, distribution, &c.]

Mr. JOHN SLATER [*F.*], B.A. Lond., asked leave to propose a very hearty vote of thanks to Mr. Killingworth Hedges for his admirable Paper, and especially for the extremely interesting and beautiful views with which it had been illustrated. He should also like to include in the vote of thanks the gentleman who had just sat down; his remarks must have been of the most interesting character to all present. There were one or two practical points in Mr. Hedges's Paper which he should like to remark upon. As regards the best material for lightning conductors, as far as his observation went, the majority of electrical engineers concerned in the erection of tall chimney shafts preferred tapes to stranded wires, and he was rather surprised to hear from Mr. Hedges that in his opinion stranded wires were better. Perhaps Mr. Hedges would kindly favour them with the reason for this. He had always understood that the great advantage of tapes over wires was that all the connections to points, &c., could be made so much more easily. He quite understood that if they employed the elaborate system of connections exhibited they could get perfect connection; but connections of that sort were much more expensive than the perfect connections which could be made by flat tapes. Then, with regard to the safety of tall chimneys, was there any possible risk to the structure, to the stonework or brick-work of the chimney, in employing hoop-iron bond to go round the ring, not connected with the lightning conductor? Of course in the case of tall shafts the walls were built thick, and sometimes to get a better bond one felt inclined to put in hoop-iron; if, however, there was a possibility of the lightning current jumping across from the conductor to the metal, which might be within two or three feet of it, it seemed to him that such bond ought to be avoided altogether.

Mr. EDWIN T. HALL [*F.*] said he had the very greatest pleasure in seconding the vote of thanks Mr. Slater had proposed. The subject was rather a novelty, and the evening had been exceedingly interesting. No doubt many remembered the Report to which reference had been made, and he was glad to hear from so great an authority as Mr. Marriott that the Report, though drawn up many years ago, was a text-book which they might follow at the present day. There were one or two questions of a practical kind he should like to ask Mr. Hedges. First, should a lightning conductor be insulated from the building, or attached by metallic brackets? Take, for example, a very tall chimney shaft; was it better that the supports which are required by the conductor should be insulated from the shaft as it came down, or attached, as is the common practice in England, by a band nailed to the brickwork? Another point: it had become the practice lately, in order to get rid of large quantities of exhaust steam from big engine installations, to take the exhaust steam-pipe up the centre of a tall shaft, so as to carry the steam right up into the air. Was that a source of danger in connection with a lightning discharge? The practice was to secure the pipe to the shaft by cast-iron stays at intervals all the way up. There was, of course, outside the stack a lightning conductor, but from what Mr. Hedges had said, iron seemed to be as good a conductor as copper; should, therefore, the lightning strike the centre iron shaft, what would be the result? In the particular instance he was speaking of, the column was supported at the bottom by an iron stanchion; how could the whole be best protected?

Mr. H. HARDWICKE LANGSTON [*A.*] remarked that in the photographs of lightning which had been produced on the screen they had seen that all the streaks were crooked, none were straight. How was that associated with the theory that the means for conducting the electrical discharge should be absolutely straight? Again, was not the flash, of which they saw the result the electricity being liberated rather than the progress of the electricity itself?

Mr. C. H. BRODIE [*A.*] asked if it was not necessary for the base of the lightning conductor to be very carefully protected, so that people should not lean against it? Supposing, for instance, in a thunderstorm a man were leaning against the lightning conductor, would not the current be as likely to pass through the man as through the lightning conductor?

Mr. KILLINGWORTH HEDGES, replying to Mr. Hall's question about insulating the lightning conductor, said that there was very little good in ordinary insulation. The insulation must be perfect, as good as that used for high-tension currents; but the ordinary insulator was very little good, especially as storms occurred when there was rain and moisture on it, when it would become a conductor. It was better to keep the conductor away from the chimney shaft, and so to have a straight run descending it, clear of the projections of the building. That was best done by having metal supports built into the shaft, and letting them project, the supports being of such length that it was not necessary to bend the conductor in and out. There would then be no danger of the current running into the shaft. In Germany they had almost given up using tape; they used a round flexible cable of either iron or copper, of the same kind as that employed for the conductors at St. Paul's. As to whether iron or copper was used, that was simply a question of how much money they had to spend, and of durability. As regards lightning-struck buildings, there was great difficulty in getting accurate information. He hoped that, as one result of the discussion, architects who took sufficient interest in the subject would when a disaster occurred communicate the salient data to some central body, so that reports could be drawn up, based upon the results practically obtained. The Lightning Rod Conference, as Mr. Marriott had said, had done extremely good work, but nothing had been tabulated since 1882, and he had had the greatest difficulty in finding anything reliable since that date. He ventured respectfully to suggest that something in the nature of that Conference should be resuscitated; that gentlemen should be appointed by the Institute Council to associate with others to be appointed by the Royal Meteorological Society and perhaps the Royal Society. On the question of funds, he would suggest that the British Association should be asked to give a grant. A grant had, he thought, been suggested at the Bath meeting after Professor Lodge's Paper, but nothing had come of it, because there was no body equivalent to the Lightning Rod Conference to take the matter up. If the subject were brought forward by an authoritative body like the Institute, the matter might be revived, and they should get reliable data to act upon. He had had some photographs sent him of the damage caused to a church at Thirsk by one of the thunderstorms that took place last Monday—probably the same storm that travelled down and caused the fatality at St. Mary Cray. They had doubtless read of the case. An unfortunate man at a football match took shelter from the storm in a galvanised iron shed with a flagstaff on it. The current struck the flagstaff and glanced off and killed the man. That was a danger the Lightning Rod Conference had not put forward sufficiently for popular knowledge, viz., that if flagstaffs were put up in the neighbourhood of buildings they should be protected by a conductor; and if there was an iron building alongside, the iron roof as well as the rod forming the conductor of the flagstaff should be earthed. A matter of 30*s.* would pay for it. Had this been done at St. Mary Cray a fatal accident would have been avoided. With regard to the disaster at Thirsk last week, this was a case where the building deserved to be struck, for it had no lightning conductor at all. There was a large church at Thirsk, and within a hundred yards a small chapel: the church was not damaged at all, but the chapel and a neighbouring building were very much knocked about. This was an instance of the side-flashing of the current referred to in his Paper. There was a sort of vane on the chapel that was struck first, the current then ran down the wet slates on to the gutter, and endeavoured to jump to earth. It traversed the gutter, and blew away the gutter supports. It then found a better outlet by the rain-water pipe after going round the whole building, but on its way a large amount of surging took place, and it did not go straight but gave a side flash and blew a lot of slates off, and then finally got to earth. He should like to ask Mr. Marriott, who he hoped would reply to some of the difficult questions that had been put, why in a case like this the windows were nearly always blown out. The windows were of thick cathedral glass, and every one of them disappeared except one in a glass door which was left open. With regard to Mr. Slater's question about tapes, he had not a very decided opinion upon the subject. Why he did not like tapes—ribbon conductors they were called —was because there was such a tendency to make "a nice job" and take them round corners and points. Professor Lodge showed by experiments—he himself had seen it done repeatedly—that if a wire was threaded in and out the current would not go that way—it would jump probably, if it could, to the continuation of the conductor; but if the conductor was not immediately underneath, or if there happened to be a convenient iron spout, with the perversity of high-tension currents it would just as soon jump sideways on to the iron spout and take another course. He did not quite agree with Mr. Slater that a better job could be made with joints using tape. He had specified "tape" in several cases, and he found that where the air terminal came on to the tape there was a kind of socket with a slit in it, through which the tape was put, fastened by a screw, and it was supposed to be soldered. On testing, sometimes, he found it was only resting quite loosely. He would not say that it could not have been made a good job, but it was a little difficult to do—more difficult than with a round thing, which can be fitted to the conductor and filled in with solder; because the vertical air terminal is of smaller diameter than the stranded conductor. If the copper conductor is unstranded, a little opening made, and the copper air terminal pushed into the middle of the conductor, and then filled up and soldered, and a socket placed outside, the joint cannot get out of order. At the same time tape was cheaper, a consideration during the high price of copper. With regard to a hoop-iron bound chimney, that opened up a fresh question. He did not know whether Mr. Slater had seen Professor Lodge's experiments, but there would be a great danger, in the event of the chimney being struck, of the current jumping to the hoop-iron; but as a matter of fact, chimneys were very seldom struck except when they were not being used. A chimney with a furnace underneath was a very good conductor in itself, and he did not think required any special lightning rod. But, of course, when the stack was cold, it required a conductor. With regard to Mr. Hall's question as to the exhaust steam pipe going up the middle of the chimney shaft, he thought it was absolutely necessary to earth that pipe; by that means they would make an excellent conductor of it, and then there was no danger of the electric current leaping from the proper path for it. The two should be earthed perfectly separately, not to depend one on the other. The conductor should be placed outside and earthed, and the exhaust pipe taken up the chimney and earthed at the bottom, which could be easily done. Generally a bend was made of a fairly large casting, and with a little scheming this could be attached to a suitable earth, so that it would not be destroyed by the heat of the furnace or the smoke passing up the chimney. With regard to Mr. Brodie's question about the lightning conductor, he certainly should not like to lean up against it; but an accident would be more likely to take place during a storm. On a fine day the current, very possibly, would pass down the conductor to earth, always providing the earth was suitable; but on a wet day there would be a good chance of the man, whose feet would be wet and who would be standing on wet ground, being a very good conductor himself. Mr. Langston's question he would ask Mr. Marriott to reply to. He understood Mr. Marriott to say that the lightning was seen curved round, but not that the conductor should be curved to receive it, because there was only one point of impact on to the conductor. It did not matter, for instance, how the spark from a Leyden jar came —it might come from a variety of directions—but it tended to strike the point of a conductor. A discharge from the clouds would probably act in a similar manner.

Mr. MARRIOTT, replying to Mr. Langston, said that the lightning was not perhaps the electricity itself, but the visible discharge of electricity between one group of clouds and another. Of course, the electricity had collected, and the lightning flash showed the discharge of the electricity; but the lightning went in sinuous and various forms, and took the path of least resistance—and that was why it took that form—not a straight line as one would draw it with a ruler. It went in that direction, probably, because the air was of different temperatures, and it followed the path of least resistance until it came to the conductor or some object where it could get away. Hence the conductors should be of such efficiency as to carry off the discharge. If there were a great many twists and turns the lightning might perhaps, if it was a strong flash, leap from one point to another and damage might be done; therefore it was very desirable to have a straight conductor of sufficient capacity to carry off the lightning.

The PRESIDENT asked Mr. Marriott if he could explain why, when a church was struck by lightning, the windows should all be blown out?

Mr. MARRIOTT said he should like to know a little more of the circumstances before he could answer the question fully; but he would give a little explanation with regard to tornadoes, with which thunderstorms were often associated. If a building was closed, and there was a tornado, or a depression, or a cyclonic system coming over, there was a great difference in the amount of atmospheric pressure in the centre to what there was outside—that is to say, the gradient was very steep, the barometer would be lowest at the centre. Then, supposing the centre passed over the building, the atmospheric pressure being less there than elsewhere, the air inside would consequently expand on account of the relief of pressure above, and, expanding, the windows would be forced outwards. Thus it was nearly always the case when tornadoes passed over buildings, that the windows were blown out, owing to expansion of the confined air inside the building.

The PRESIDENT thought that there might also perhaps be another reason? Two of the illustrations were of buildings which had been struck, and the falling spires had crashed through the roof; would not the sudden inrush of wind through the opening thus made in the roof force the windows out? Given a church partially glazed, with only two or three windows unglazed, the wind in a violent storm would blow through the unglazed windows and force the windows out on the other side—he had known this happen in a church he was erecting. With regard to Mr. Hedges's suggestion that architects should communicate details of lightning disasters happening to buildings, it would be desirable that they should be supplied with some form or schedule of questions, so that they could fill in the details required; otherwise, probably, a mass of useless details would be given, and necessary information be omitted. With regard to any action by the Institute in conjunction with the British Association and others, if Mr. Hedges would formulate any scheme that would further this object, and put his proposals in writing, and send them to the Council, they would consider in what way they could co-operate with him.

THE·ROYAL·INSTITVTE·OF·BRITISH·ARCHITECTS·1834
INCORP. 1837 1887

9, Conduit Street, London, W., 28*th April* 1900.

CHRONICLE.

The Statutory Examination.

Pursuant to Section 140 of the London Building Act 1894, an Examination qualifying for Candidature as District Surveyor in London was held by the Institute on Thursday and Friday, the 19th and 20th inst. Three candidates were examined and passed, viz.:—

Henry Nathaniel Kerr, of Berwick House, 139, Oxford Street, W.
Walter Henry Woodward, of 69, Kennington Oval, S.E.
Ernest Alexander Young [*A.*], of 12, Donaldson Road, N.W.

These gentlemen have been granted by the Council Certificates of Competency to act as District Surveyors in London.

THE LAW OF ANCIENT LIGHTS.

Suggestions for its Reform.

The discussion of the question of Reform in the Law of Ancient Lights, adjourned from the Meeting of the 19th March, when Papers on the subject were read by Messrs. J. Fletcher Moulton, Q.C., M.P., J. Douglass Mathews, and Beresford Pite [pp. 209 *sqq.*], was resumed on the 9th inst.

The PRESIDENT, in opening the proceedings, observed that the question before them was one of great importance. The law relating to ancient lights had been the means of much unscrupulous conduct, and the cause of blackmailing and other injustice. The time had arrived when strenuous exertions should be made to discover a remedy for the evil, or to obtain some alteration in the law. He hoped that during the discussion some practical points would be suggested that might be of use in the event of action being taken. As a sequel to the discussion, he thought it would be a good plan to form a committee, consisting of two or three members of the Institute, two or three members of the Surveyors' Institution, and two or three lawyers, with a view to approaching Parliament on the matter, if thought desirable.

The President then read the following letter from Mr. Thomas M. Rickman, President of the Surveyors' Institution:—

8, Montague Street, Russell Square, W.C.:
9th April 1900.

Dear Mr. President,—I am very sorry that my doctor refuses me permission to come this evening, as I had intended, to the renewed discussion of the question of Ancient Lights. I feel very strongly, in the words of Mr. Fletcher Moulton, that "the rule that existing rights shall not be interfered with is too drastic to be adhered to." Also that the presumption of law in favour of existing dominant lights is contrary to common sense. But these are only my private opinions. Should Mr. Brodie's resolution be carried this evening, I shall be most happy to do all in my power to bring the Council of the Surveyors' Institution into touch with your Council or Standing Committee, so as to obtain a combined discussion of the whole subject.—Yours faithfully,

Thos. M. Rickman.

William Emerson, Esq., President R.I.B.A.

At the request of the President, the Secretary then read the following communication from Mr. Arthur Cates:—

Everyone interested in the establishment of right and justice, and in the abolition of the tyranny and blackmailing perpetrated under the sanction of the present law of light as administered in the Courts, must be grateful to the Practice Standing Committee for having brought the subject again before the Institute, and for having introduced its discussion by the three able Papers read on the 19th ult.

For many years at intermittent intervals the subject has been considered and discussed here, resulting in the publication in the Proceedings and Transactions of a large amount of valuable matter, which might now be collected and, so far as it may bear on the reform of the existing law, be republished as a convenient handbook for the information and assistance of those who may desire to follow up this discussion to some practical conclusion.

The discussion on the Paper on "The Law of Easements," read by Mr. Locock Webb, Q.C., on December 17, 1877—Transactions, 1877–78, pp. 88–112—elicited an article entitled "The So-called Law of Ancient Window Lights," which appeared in *The Builder* of January 26, 1878. This article, which was quoted at some length by Mr. John Whichcord in his preliminary statement—Special Committee on Light and Air—(Proceedings, Session 1881–82, No. 18, 27th July 1882, p. 236) was written with great care, and, combining the results of a special study of the subject and of a somewhat extensive professional experience, strongly advocated a complete reform of the existing law.

Another article, "Reversioners and the Acquisition of Rights of Light," which appeared in *The Builder* of 12th January 1884, dealt with a position of great difficulty, under which the most onerous dominant rights frequently grow up.

Both these articles it would be most valuable to include with the suggested reprint of excerpts from our Proceedings, &c.

Assuming that the resolution which Mr. C. H. Brodie proposes to submit to the Meeting will be adopted, it would appear to be desirable that no attempt should be made to devise some scheme for merely diminishing the evils which, it is admitted, the existing law as now administered permits and encourages, thus to a great extent accepting the present state of the law as equitable and correct—but rather, the endeavour should be made, *inter alia*:—

To investigate the principles on which it is alleged that such law is based.

To ascertain the reasons which influenced the Legislature in enacting the particular clause under the alleged authority of which so much extortion is practised and hardship inflicted.

To illustrate the mischievous and unjust action of the law, and the opportunities it affords for oppression and extortion, and thus give good reason for the pressing necessity for a radical change.

To inquire into the law of other countries on the subject.

As regards rights of light which are manifestly encroachments on the servient tenement, to consider how such servient owner could be protected, by the really equitable and just system in force in Scotland, or otherwise, from the aggression of his neighbour—the real evildoer and first aggressor, the dominant owner.

In addition to the references given by Mr. Brodie in his memorandum on pp. 234–235 *ante*, much useful information in the direction above indicated will be found in my remarks in the discussion on the law of light and air—Proceedings, Session 1880–81, No. 13, 17th March 1881, pp. 188–191. The information given is based upon actual experience—regulations controlling the height of buildings in relation to the width of streets, the French law, the Scotch law, &c., generally pointing to the necessity for a reform of the law—and will be found of service in the consideration of the matter, but would occupy too much time to recapitulate here.

The Special Committee appointed after the above-mentioned discussion requested Mr. J. Leybourn Goddard (author of *The Law of Easements*) to report on the law respecting light and air as it existed previously to the passing of the Prescription Act, and to show how the law of prescription grew up before that Act was passed, what were the reasons for the passing of the Act, how the Act was brought in and passed through Parliament, and how the law regarding light and air was affected thereby. Mr. Goddard's Report was printed in the PROCEEDINGS 1881–82, 11th May 1882, pp. 254–267, and clearly shows how little consideration was given to the question of light. The Prescription Act was the first result of the labours of the Royal Commission on the Law of Real Property, and on p. 263 Mr. Goddard sets out the few words in which this most important subject was summarily dealt with by Lord Tenterden—without explanation or qualification—and thus became law without apparently any discussion or amendment in either House.

Mr. Edward Stanley Roscoe, who was associated with me on that Committee, also carefully examined the Report of the Royal Commission and the evidence on which it was based, but did not find that the question of the right to light was specially discussed either by the Commissioners or the witnesses; and it seemed to him to follow that, as the question was not discussed in Parliament, the Act was passed, so far as regards the right to light, without there being any reason for it, and without any consideration of its probable consequences; and there appeared to him no reason why the mere fact of such a measure being in the Statute Book should be any argument against its repeal, having regard to the circumstances under which it became law. Mr. Roscoe's observations will be found in PROCEEDINGS, Session 1882–83, No. 15, 31st May 1883, p. 143 and No. 16, 14th June 1883, p. 154.

In the PROCEEDINGS, Session 1882–83, No. 10, 8th March 1883, p. 96, there is a communication on the subject from the Manchester Society of Architects in which they say: "The simple gaining of an easement of light over an adjoining property, by lapse of time only, this Council does not consider justifiable, and it would be glad to see the law altered. The system of gaining an advantage surreptitiously is not in accordance with the views of morality held by the Council of this Society."

In the JOURNAL OF PROCEEDINGS, Vol. II. N.S., No. 19, 12th August 1886, pp. 281–285 are "Reports on the Law of Light and Air in Scotland," contributed by William and C. J. MacLean for the Glasgow Institute of Architects—and by the Edinburgh Architectural Association.

The latter report thus summarises the law: "In Scotland such servitude is regulated by express grant or contract, and cannot be constituted by prescription. In the law of Scotland, light and prospect is a negative servitude, *i.e.* a servitude in virtue of which a servient proprietor is prohibited from performing some act which, but for the servitude, he would be entitled to perform. A negative servitude can only be constituted by a grant. It does not admit of possession, and therefore cannot be acquired by prescription."

Personally I am very pleased to have been able to bring this just and equitable view of the law to operate to a limited extent in London. Some thirty years ago, when consulted by the Commissioners of H.M. Woods in charge of the estates of the Land Revenues of the Crown in London, with reference to the management of those estates, I advised that, in order to put a stop to scandalous litigation between the Crown tenants, resulting in blackmail or the crippling and cutting down of buildings and hampering the development of the estate, all future leases should contain a proviso taking away from the lessee all right of light over adjacent Crown lands. This recommendation was adopted, and such proviso has since been invariably inserted in every new lease. Shortly afterwards, this came incidentally under the notice of the Master of the Rolls (Sir George Jessel), and was warmly approved by him. The proviso is as follows:

"Provided lastly: and it is hereby further agreed and declared and this demise is made upon the express condition that the said lessee his executors administrators and assigns shall not by virtue or in respect of this present demise be deemed to have acquired or to be entitled to neither shall he or they during the existence of the term hereby granted acquire or become entitled to by length of enjoyment prescription or by any other means whatsoever in respect of the premises hereby demised any right of air or light or other easement from or over or affecting any land or hereditaments belonging to Her Majesty not comprised in this demise but on the contrary it is agreed and declared and the said lessee doth hereby covenant and grant with and to Her Majesty her heirs and successors that it shall be lawful for Her Majesty her heirs and successors and for the said Commissioner or Commissioners and her his and their grantees lessees or tenants at all times hereafter to erect any new buildings of any height on any land belonging to Her Majesty not included in this demise and to raise to any height or alter any buildings now existing or to be hereafter erected on any such land as last aforesaid whether any such buildings or alterations as aforesaid may or may not prevent obstruct or affect the passage of air or light to the premises hereby demised or any part thereof or to any new building which may hereafter be erected on the land hereby demised."

This proviso has worked admirably: litigation has been prevented, the development of the estate has not been impeded by rapacious or cantankerous owners of dominant rights, the rents obtained have not been affected, and no one has been injured by its operation.

Thus in course of time, when existing terms have run out, and the proviso will under the new leases have become applicable to the whole estate —the Crown estates in London will by the operation of that proviso, and the effect of the decisions of the High Court in Perry *v.* Eames,* and in Wheaton *v.* Maple,† be placed much in the same position as if under the law in force in Scotland—and be entirely outside the operation of section 3 of the Prescription Act.

The efficient municipal control of buildings generally—of the width of streets, of the height of buildings, of the open spaces in the rear of buildings, and the sanitary enactments as to provision of due access of light and air—should amply suffice to meet the requirements of the Roman law under the servitude of "*Altius non tollendi*"; and to protect all alike, in the interests of public health, from those encroachments by bold and unscrupulous speculators, who are now to some degree held in check by the operation of the existing law, and who certainly require to be more rigidly controlled than seems possible under the building laws at present in force.

Every endeavour must be made to dispel the prevailing idea that the wrongdoer and offender is the owner of the servient tenement, who, by building on his own land, takes away from the dominant tenement something for which the owner thereof has given no consideration, and has acquired in such a manner that the unhappy owner of the servient tenement has had no power of protecting himself from the acquisition of a right over his land, seriously affecting its value and controlling its user by him, to the advantage of a stranger who benefits without payment by the increased value of his land derived from the rights he has so acquired over his neighbour.

No mere palliation of the wrongs now inflicted on the servient owner for the advantage and benefit of the real evildoer and first aggressor, the dominant owner, should be attempted, but the aim should be to establish as a principle that no indefeasible right to light should be allowed to be gained by mere effluxion of time, or otherwise than by an express contract between the owners of the dominant and servient tenements.

5th April 1900. ARTHUR CATES.

The President then called upon Mr. Brodie, one of the Honorary Secretaries of the Practice Standing Committee, to move the Resolution of which notice had been given.

MR. C. H. BRODIE [*A.*] explained that his position on that occasion was purely an official one. The meetings for the discussion of the subject before them had been arranged by the Practice Standing Committee, who had been fortunate in securing the excellent Papers read at the previous meeting by Mr. Fletcher Moulton, Mr. Douglass Mathews, Chairman of the Committee, and Mr. Beresford Pite. The Committee had come to the conclusion that the law stood in pressing need of alteration, and had drawn up the resolution of which notice had been given, and which he, as the mouthpiece of the Committee, would forthwith move—viz.

> "That this Meeting considers an alteration in the law of Ancient Lights to be urgently needed, and requests the Council to put itself into communication with the Council of the Surveyors' Institution without delay, with a view to the co-operation of that body in taking such steps as may be necessary to secure an amendment."

The subject was admittedly one of pressing importance. It had been shown in various Papers that such prescriptive rights of light as could be acquired in England were not capable of acquisition in Scotland, Sweden, France, or the United States. Why should such rights be allowed to accrue in England when they were capable of being so mischievously exercised? That he might not be accused of overstating the position, he would quote some of the remarks made on the subject which bore out the view of his Committee. Mr. Moulton in the early part of his Paper said: "The question of law reform in this respect is one of immediate and pressing importance." Later on he said: "Our Courts are often practical at the cost of logical consistency, and their behaviour in this respect shows that they have realised the fact that the absolute rule that existing rights shall not be interfered with is too drastic to be adhered to under the needs of a rapidly increasing town population." Further on Mr. Moulton said—and doubtless his practice in the Courts had led him to the conclusion—"that the strict rights of light given by the Prescription Act are very onerous and often very injurious to the proper development of our towns." All who had followed the subject must be absolutely convinced of that. Speaking of a neighbouring owner's light, Mr. Moulton observed: "His light must not be interfered with, however great the inconvenience to his neighbour"—that is to say, his building neighbour—"and however little the injury to him if it be more than infinitesimal. Too often such a state of things leads to what is nothing less than levying blackmail on the building owner. He must pay what is demanded or abandon his scheme." Was that a position in which they should be content to rest? Of course, as Mr. Moulton said, it was those cases in which the owner of the dominant tenement insisted upon his strict rights at the cost of inflicting on his neighbour inconvenience, without any corresponding advantage to himself, which rendered a change in the law so necessary. Such a change they hoped shortly to succeed in effecting. Mr. Mathews pointed out that, as matters now stood, an unscrupulous person could prevent his neighbour using his property to the best advantage except by payment of compensation, often amounting to "blackmail." That was a very unpleasant term to use, but it was often employed to describe the transaction. He (Mr. Brodie) did not think that a law which permitted it should be allowed to remain on the Statute Book. Mr. Mathews went on: "And the law affords us no means otherwise than by mutual agreement to alter old lights in a way that may be beneficial alike to the owner of the dominant light and to the person erecting his new building." Mr. Mathews had also pointed out that this particular Act was passed nearly seventy years ago, and that what was perfectly reasonable then had become very unreasonable now. No one would dispute that statement. Mr. Pite's Paper simply scintillated with brilliant points against the Act, and the way it was administered and affected so injuriously owners of property. He (the speaker) had put together for the JOURNAL [pp. 234–37] various passages on the subject from the JOURNALS and TRANSACTIONS of the Institute, and Mr. Cates had amplified them very considerably in the communication with which they had been favoured that evening. In 1890, Mr. John Holden remarked, when discussing Mr. Slater's Paper on "Building Legislation," "The obtaining of an easement by prescription is, in my opinion, a simple piece of dishonesty." In 1889 Professor Kerr said: "The inconvenience that arises in London from the practical application of the law of ancient lights is indescribable. . . . The trouble into which neighbours get, and the hallucinations under which they labour as regards their rights to blackmail each other, are remarkable." In 1889 Mr. J. J. Stevenson, in a Paper on "Laying-out Streets," stated that the law acted "in a perfectly haphazard and irregular manner, depending on mere accident, and consisting in stealing a neighbour's property if he does not look out, at cost and trouble to himself, to prevent it." In 1877 Mr. T. Chatfeild Clarke said: "So many opportunities are now afforded for litigation, when the effort is often one merely to extort money, that a remedy is urgently demanded." As long ago as 1866 Professor Kerr quoted the opinion of two Lord Chancellors—Lord Westbury and Lord Cranworth—who said that they did not hesitate to deplore the effect of the decisions they were pronouncing, and to suggest that the time had possibly come for the Legislature to interfere. If that time had come in 1866, how much more necessary was legislative interference now! Suggesting means of bringing about a change, Mr. Brodie was of opinion that the Act they should strive to obtain should consist of two clauses. The first should enact that on and after a certain date the Prescription Act should cease to have any operation at all. Existing ancient lights must, of course, be respected, but the Act otherwise should be allowed to lapse. Clause No. 2 should apply to actions for light exactly the same procedure as that relating to party-walls in the London Building Act. Parliament having given that procedure, and it having been found to act perfectly well, were strong grounds for applying similar procedure to questions of rights of light. In support of his contention Mr. Brodie quoted from the JOURNAL of the 16th March 1893, where, in discussing the Science Committee's Report, Professor Kerr stated his opinion that the principle of the Building Act with regard to party-walls provided a very excellent rule for dealing with questions of ancient lights. At the same Meeting another eminent surveyor, Mr. Charles Fowler, expressed his entire agreement with the proposal that this principle should be applied to ancient lights. With those statements he (Mr. Brodie) hoped the Meeting would agree, and pass his Resolution. The necessity for an immediate alteration in the law had been driven home very strongly to him by the very last case he had had occasion to sit out in the Law Courts. It was an action to restrain the defendants, a Turkish Bath Company in the West of England, from erecting baths facing a chapel so as to obstruct light coming to class-rooms beneath the chapel. Part of the site had a few years before been occupied by a high prison wall which partly shut out light from the class-rooms. Since the removal of the wall the class-rooms had enjoyed a good light. The city surveyor stated in evidence that the class-rooms were not fit to be used as such, and he had endeavoured to get them closed. [By a rough plan chalked on the blackboard Mr. Brodie showed how trivial was the grievance suffered by the plaintiffs.] The case was brought to London and heard in the Chancery Division, lasting several days. Numerous witnesses were called on either side, and costs mounted up to an enormous sum. The defendants lost; they were ordered to pull down part of their building and to pay the costs. The result was that they went into liquidation and the baths were closed. As far as his observation went, it was never so much the question of light which the parties fought about; there was always some question of spite or greed involved. With regard to the case he had alluded to, if the architect of the baths and the architect of the owners of the chapel had been allowed to discuss the points in dispute with, say, their friend Professor Kerr as the third surveyor, the matter would probably have been settled in an hour on the spot, and ample justice done to both sides.

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* *Journal of Proceedings*, Vol. VII. N.S., No. 12, 9th April 1891, pp. 257–60.

† *Ibid.* Vol. IX. N.S., No. 19, 24th August 1893, pp. 487–8.

PROFESSOR T. ROGER SMITH [*F.*] seconded the Resolution. It would be easy, he said, to illustrate to any extent the hardship and injustice that occurred from time to time, but that need not be dwelt upon. The question for them to consider was the remedy, and the only feasible remedy was legislation. It was no doubt true that a certain portion of the procedure was within the discretion of the Judge. But they must recollect that the Judges were bound hand and foot by precedent, and under ordinary circumstances they dared do nothing contrary to it. Consequently it could not be expected that the Judges would alter the procedure or make it less irksome than it was. If the Institute decided to promote an Act it would receive, he thought, the cordial assistance not only of the Surveyors' Institution, but of the Institute of Builders, and probably the great landowners in London and other large owners of property. To a certain extent also he thought they might rely on the assistance of the lawyers in Parliament, but only to a certain extent. Mr. Fletcher Moulton and Mr. Strahan both suggested modifications in the operation of the law irrespective of any question of repeal of the Act, and there was no doubt the feeling of the other members of the Bar who sat in the House of Commons would go with them. The remedies or improvements they suggested were first of all the awarding of damages instead of granting an injunction where disturbance of light was threatened but had not actually taken place. Under existing rules that could not be done. Where an action had begun early enough, the only remedy the Judge could give was by injunction, and half the harshness of the procedure resulted from the fact that the remedy was much more formidable than the case required. The result was that persons were willing to pay sums of money in order to escape it, and as a rule where the injunction was enforced it was unsatisfactory to both parties. That was one of the matters which must be included in the Committee's Report. The next, and a very desirable, remedy would be the allowance of compensating advantages as a partial compensation. Those were ordinarily entirely shut out from the courts of law. Arbitrators from a sense of justice took them into consideration, but they had no right to do so, and the compensating advantages only indirectly influenced their awards. A compensating advantage was the use of white tiles—the use of reflecting surfaces—in fact, the admission of reflected light. He should like to mention one or two other compensating considerations which ought always to be considered. The first was the removal of some existing obstacle. It often happened in a building scheme that something was going to be taken down as well as something put up, and the admission of light at one point might often compensate for its obstruction at another. Under the existing law and its administration that could not be taken into account. Mr. Douglass Mathews had referred to another method of compensation—viz. meeting the expense of altering the dominant building so as to enlarge its lights. An expenditure of perhaps £10 would often remedy any damage that threatened a building, and this was a matter that ought to be compulsorily taken into consideration. Another thing he would draw attention to was the compensation many a building owner took care to secure for himself beforehand. Cases were numerous where a man enlarged considerably his own lights and increased the burden on the servient tenement, and then he came down on the servient tenement not with complete windows but with little fragments of windows, and claimed protection against each trifling obstruction. The fact that he had already lit his building by newer portions of windows ought to be a complete answer to such a claim. But as a matter of practice it was not. The suggestion that there should be a notice formally registered, instead of the present clumsy method of putting up a screen, commended itself at once, and more than ever now that the London County Council were making difficulties about the erection of screens of this kind. As far as these modes of reducing the harshness of procedure went, they might carry the lawyers with them, but it was doubtful whether they would go farther. The best substitute for the present practice, and a measure included in the report of their Committee, would be a system similar to that known as the party-wall procedure, which might practically put a stop to litigation. If any one would consider how many houses were taken down and rebuilt in London in a year, that each of those houses had two party-walls, and that probably in each case there were not less than half a dozen owners with conflicting interests, and then would find out how many party-wall cases went to the superior courts in the course of a year, it would be seen that to a very large extent that excellent mode of procedure was most effective in disposing of difficulties. It settled the case of the party-wall justly and equitably and promptly. An objection had been made that the nature of an ancient light was so different from that of a party-wall that it could not be adjudicated upon in the same way. He doubted that very much. He had acted as the third surveyor in party-wall cases, and he had had some experience in ancient lights disputes, and his opinion was that the care and intelligence exercised with such success in the settlement of party-wall cases would be equally efficacious in disputes about ancient lights. Among the recommendations of the Committee was the proposal for an expert tribunal. Such a tribunal had been created by the Building Act for other purposes, and he could not help thinking that it would be quite feasible to refer ancient light disputes to that tribunal, and that it would be found well qualified to deal with them. At the present moment the tribunal was composed of the author of the latest book on Ancient Lights, and two men with very eminent qualifications, and if they could not dispose of any difficult case he did not know who could. The last and most important point to strive for was the entire abolition of the acquisition of lights for the future. As a matter of practice it might be more convenient to enact that no windows should acquire rights of light by prescription which were not in existence when the Act came into operation. He hoped that that would be kept in view as the ultimate object, as well as mitigating the mode of dealing with existing rights. Such rights could not be swept away. They were properties attached to the building; considerable sums had in many cases been paid in consequence of their existence, and they could not justly disfranchise the owners of those rights. It should, however, be rendered exceedingly difficult, or impossible, to deal with them by way of injunction, but every facility should be afforded for settlement by money compensation, which should be virtually the only remedy, and should be equitably and cheaply applied.

Mr. EDWIN T. HALL [*F.*] said they must all be deeply obliged to the Practice Committee for bringing this important subject before the Institute at that stage. They had more leisure now to deal with it than they had a few years ago. The President had asked them to discuss the matter from a practical point of view, and he should endeavour to offer some suggestions dictated by his own experience and from a consideration of the subject. He should like to clear the ground a little by referring to one or two observations of a previous speaker. Mr. Brodie remarked that every man should light his own building within the curtilage of his property. That, however, was hardly possible in crowded places like London. In dealing with a subject of this sort it must not be forgotten that the law of prescription was held by lawyers to be essential in order to prevent friction and litigation. The law of prescription recognised the rights of an individual owner, but they must not be exercised so as to obstruct public convenience. They owed to the Prescription Act rights of way, footpaths over vast estates in the country, without which they would have to go miles round to reach a place only a short distance off. Bearing this in mind no one could wish that the law of prescription should be abolished. In like manner water rights were most important, and no doubt it was the consideration of these things which induced the Legislature to recognise prescriptive rights in regard to light. The same principle applied in respect of railways. No private person, because he was the owner of a large property, could prevent a railway being carried through it when it was for the public convenience. It was equally in the public interest that buildings should be allowed to be increased in height, and therefore the Legislature which had granted the public a right of passage through private property should also refuse to recognise the right of an owner to prevent the height of a building being raised where the public convenience rendered it necessary. London buildings originally were probably only one story high, but as the population increased and land went up in value it became necessary to increase the number of stories. From a public and sanitary point of view the power to prevent the overcrowding of buildings was a salutary one; if there were not some restriction all sanitary considerations in regard to light and air permeating through and around buildings would be neglected. He also thought that if a man in developing a building estate that had formerly been agricultural land approved a plan of a building showing windows overlooking his own adjacent land, he ought not to be allowed to let the adjacent land to some one who could build right up to the edge and obstruct the light coming to the windows he had already sanctioned in the other house. If that principle were sound it ought to apply in all cases of adjacent buildings, and there should be a certain space reserved. Mr. Cates had drawn attention to the fact that the Woods and Forests Commissioners did the same. The Ecclesiastical Commissioners carried out such a practice on their estates. Those bodies would not allow a man to erect his building so that it should ruin his neighbour's, and the practice was found to answer admirably. He would submit, as a practical suggestion, that when a new light had been acquired by mere lapse of time, say, at a distance exceeding 10 feet from a neighbour's fence, the adjacent owner should have a right to build to the same height at the same distance from the fence. That would get rid of the question of a dominant right accruing by effluxion of time over the adjacent land. No injustice would be done to the first man, and sufficient light and air would be secured between the buildings. If the new light were nearer than 10 feet to the adjoining owner's fence, the dominant owner should pay during twenty years—the time, that is, during which he would otherwise acquire the right—to the servient owner a rent to protect the dominant owner's light rights, which rent should be equivalent in value to what he might reasonably expect to get by way of compensation for any injury to that light if he acquired it by mere lapse of time. If he did not pay this rent, he should not be allowed to acquire a right. Another suggestion he would make was that where a high building and a low one faced each other on opposite sides of a road the owner of the low building should be entitled to carry his building to the same height as the opposite building without paying any compensation at all. That is to say, the man who had built the tall building should not acquire rights over his opposite neighbour simply because that opposite neighbour had chosen to erect or retain a low building. In other cases he would suggest that the fact of there being a public way between any two properties should *ipso facto* give a man a right to build within an angle of 45 degrees from the level of the pavement on the opposite side of the way. They constantly heard of miserable cases which simply amounted to blackmail, and on the blackmailing side evidence was often given by people in the profession or connected with the profession which shocked every right-minded man. If some such rule as he suggested were enforced a great many of the difficulties would be overcome. Then if any building was carried to a greater height than formerly without compensation to the owner on the opposite side of the street, that owner should have a right to build to the same height. Such a practice was constantly followed. He had made dozens of agreements of the kind in his own practice, and he thought them an eminently equitable way of dealing with these cases. If right-minded owners so agreed between themselves the Legislature should sanction some similar procedure, and so get rid of many of the difficulties which at present hamper them. Where such remedies as he had suggested would not apply he quite agreed that it would be a perfectly reasonable course to appoint three surveyors, as in the case of a party-wall, and in the event of their disagreeing, or either side challenging their decision, the case should be taken to the Tribunal of Appeal as constituted under the London Building Act, and that court should be the final court of appeal. With regard to cases where money compensation was rightly due, the Tribunal would, he was sure, do perfect justice. They must remember that the Legislature would never be brought to pass an Act to rob a man of property. They must try to be practical, and talk not of what they would like, but of what they were likely to get.

Mr. THOMAS BLASHILL [*F.*], referring to Professor Roger Smith's remark that the London County Council were taking steps which would practically render the raising of screens impossible, said that that was hardly the case. The point of view the Council took was that these great screens, sometimes 40 or 50 feet high and amounting to something like a timber stage, were dangerous as regards fire. The effect of their action had been to get people to put up iron or incombustible screens instead of wooden ones. It was a more difficult and more expensive operation, but screens could be put up just the same. There was one point in Mr. Fletcher Moulton's paper which recalled to his mind a case of light and air he (Mr. Blashill) had been concerned in. Mr. Moulton said that a man had a right under the present law to the use of the light which he had before, whether he wanted that light or not —or words to that effect. The case recalled to him occurred in the City. He was reconstructing a building which had had the ordinary windows of a house in its front. Being for a public purpose the new building had a very different kind of light from the original building, both as regards the height of the stories and the amount of the window space. Some three or four years after, the owner of property on the opposite side of the street, which was very narrow, began raising his building two or three stories. A dispute arose, and they went before the then Master of the Rolls, Sir George Jessel, who had a great reputation for bringing a highly original mind to bear upon every subject which came before him. He said in this case that the owners had preserved, no doubt, in the larger and differently spaced windows of the new building some portions of the original windows of the house, and in those portions only were they entitled to unobstructed access of light. From the fact that they had preserved certain portions of those windows the owners must not be allowed to acquire in time a right over the whole of the new windows. The question was, had they preserved so much of the old lights as would be sufficient for the purpose of the new building? because, if they had not, the building opposite had done them no harm. His lordship directed them to put up a screen in front of the building, so as to reproduce the windows that existed in the old building; they would then find out whether enough light was admitted through the screen and through the new windows for the purpose of the building. This they set about doing, but as the work proceeded they became rather doubtful about their case. It appeared, too, that their opponents opposite were not very sure of theirs. The result was that the parties agreed to drop the case, each paying their own costs. He was sorry the case so ended, for the test proposed by Sir George Jessel was eminently sensible and just, and he should have liked to have seen how it turned out. It seemed to him that the principle laid down by Sir George Jessel in this case modified the view presented by Mr. Fletcher Moulton, for the light would not be protected unless it was a useful light sufficient for its purpose. He was quite in agreement with what had been said as to the desirability of treating ancient lights questions on something of the same basis as party-wall questions. If that did not settle a dispute then let them go to the Tribunal of Appeal. These constituted two methods of settlement either of which would be found immeasurably superior to the present procedure.

Mr. DELISSA JOSEPH [*F.*] said he had carefully read the Papers on the subject in the Journal. They were full of interest and gave one much food for thought. It seemed to him that in any proceedings they undertook, they must accept the fact that the law had given certain rights. The owner of a window had as much right to protect his easement as the owner of a right of way. They must not, therefore, ask the Legislature to interfere with existing easements, but merely to simplify the law and the procedure in connection with it. They might ask Parliament to make the acquisition of new rights more difficult by one or other of the methods suggested in the Papers. The Swedish method of registered agreement seemed simplicity itself, and might well be considered by the Committee to whom this question was to be referred. Parliament should also be asked to define the principles which should guide them in ascertaining and allowing for the rights of these neighbours. It would be extremely useful to have defined not only the horizontal angles of light but the much more troublesome lateral angles of light. Appeal to the Law Courts should be permitted only in the last resort, and after reference to an umpire or a technical tribunal. There would be no greater hardship in referring ancient lights disputes to an umpire or to a technical tribunal than there was in the case of party-walls. In party-wall cases, which were almost as complex and varied and difficult as those of ancient lights, the appointment of adjoining surveyors and of a third surveyor to adjudicate upon the question had answered most satisfactorily, and party-wall cases rarely drifted into the Law Courts. Equally beneficial results might be obtained in the same way for ancient lights cases. The suggestion as to notice to surrounding owners necessarily followed that with regard to adopting party-wall procedure in general. The difficulties perhaps might be greater in ascertaining the surrounding owners who were entitled to notice, but it would have the advantage of checking unexpected claims at the eleventh hour, as they would know at once what objections they would probably have to meet. Something had been said about a natural hesitation to refer matters of this kind to arbitration, because there might be a question of ownership concerned. In nine cases out of ten, however, no legal question of an abstruse character arose as to the existence or non-existence of ancient lights. Most men usually carefully measured their buildings before pulling them down, or kept some record of them, and the Building Act gave facilities for getting these records certified. In most cases in the City of London they had a record of the existence of ancient lights, so that purely legal questions need scarcely ever be brought before the arbitrator. Questions of the effect on old buildings of the encroachments on admitted lights should, he considered, always be taken to arbitrators. One or two speakers had referred to the hardship of rapacious adjoining owners claiming compensation for encroachments. One ought, however, to study the surrounding property very closely before pledging oneself to a building. It was not easy to take into account the numerous difficulties which present themselves in town buildings; it was indeed an art in itself to design a building which would not encroach on the surrounding rights of light; but if reasonable regard be had to the possible claims of surrounding owners, mutilation of the building was rarely necessary. His own experience was that in nine cases out of ten differences could be adjusted by negotiation. Where that failed arbitration could be tried. The Law Courts was the last resort. He did not agree that the raising of a claim for compensation must necessarily be regarded as a grievance. The law gave a man a certain right, which he was entitled to have respected, and if it was taken away he ought to have its market value. To arrive at the market value of a light he had adopted the following method with success. He estimated the rental value of the floor space gained from the increased height obtained by the encroachment. That sum capitalised represented the capital value of the increased rental, and upon that the compensation was based. As a rule where that was adopted the compensation paid recouped itself in a year or two. Models, which some one had said were of little service, he himself had found of the greatest possible value. They brought to the minds of both lawyer and layman a conception of the circumstances which no diagram could do. Quite recently he had prepared a model in a case which his client wished to take into Court. He advised him, however, to lay the matter before Mr. Fletcher Moulton. The model was taken to the House of Commons and submitted to the eminent counsel, and within half an hour he came to the conclusion that they had no case to take into Court. His client was thus saved the anxiety and expense of litigation by the advice of an experienced man, who in forming his opinion was materially helped by the model. He always advocated a model even if the case did not go into Court, because it often showed one's client the futility of his case, or his neighbour the unreasonableness of his claim. No one, he believed, had referred to the method of dealing with these difficulties in Scotland. The Guild Court had complete control of all building questions in Edinburgh. Before buildings were commenced, plans were laid before this Guild Court, which decided questions of construction, foundation, ventilation, mutual support, party-walls, drainage, the application of local by-laws, and also what was technically termed the "neighbourhood" of buildings. All questions affecting the relation of one building to another were equitably adjusted by the Court, very much after the manner in which the Ecclesiastical Commissioners and the Commissioners of Woods and Forests dealt with their estates. The consequence was that by the time the Court had passed the plans it had settled most of the burning questions which in England usually arose in the course of erection. It settled, too, the question of light, reserving to each party ample space for light and preventing either party prejudicing the other. He thought that not quite enough stress had been laid on the fact that the Building Act of 1894 tended towards checking the upgrowth of new easements of the troublesome character of those under discussion. The broad principle of limiting the height of buildings, and the broader principle of defining the rear angles, practically had the effect of forcing a man to light his property within his own area. As regards the general question, what was the real solution of the difficulty? In the first place it must be accepted that vested interests cannot be interfered with. They could only ask the Legislature to make things easier for an equitable adjustment of these matters, and, if possible, without resort to law. His own experience led him to speak strongly in favour of reasonable negotiation between parties; and if that failed, arbitration was an invaluable resort. With sixteen or seventeen years' extensive practice in ancient lights cases, only once had he gone into Court, and this, he submitted, was good evidence of the value of reasonable negotiation. So long, perhaps, as the law was made by lawyers, as it had been for centuries in the House of Commons, new legislation would hardly tend in the direction of the settlement of disputes without appeal to the Courts. But supposing Parliament declined to give such facilities as voluntary or compulsory arbitration, then they must fall back on the suggestions made by Mr. Fletcher Moulton. They were in themselves extremely valuable, because they were based on precedent. Mr. Moulton advised something to this effect: "Let us apply to the question of the ownership of light the same principle which the Legislature has laid down shall be applied to the ownership of land." Where owners of land required for the purpose of a railway refused to sell their land, the Legislature stepped in and told them they must not stand in the way of public works of utility and improvement, but they must sell the land at a reasonable price, *plus* some compensation for compulsory sale. Such a procedure with regard to light would be extremely valuable and would simplify the matter enormously. Another suggestion of Mr. Fletcher Moulton's appealed to them all—viz. that an architect assessor should be appointed to assist the Court, in the same way that the Trinity Masters assisted the Admiralty Court. In reading the Papers so well placed before them in the JOURNAL one could not but be impressed with the strange futility of the valuable work of the Science Committee on this subject. From 1881 to 1894 the question was dealt with by one committee and another, and the only result apparently was to place a document in the hands of the County Council, and then allow the matter to drop altogether. He did not think that the Institute had done wisely in going to the County Council and simply asking them to adopt their suggestions in their Bill. The result was that no notice was taken of them. He was not in favour either of going to the Surveyors' Institution. The matter was essentially one for the Institute to carry through, and there was no reason why it should not be dealt with entirely by the Institute. He would say, let the Council carefully consider the suggestion brought before them by Mr. Brodie, and bring a report before the general body for consideration and adoption. Then the Council itself should promote a Bill to achieve the important objects they desired to bring about.

MR. E. W. HUDSON [*A.*] thought the Meeting would be agreed as to the desirability of stopping undue obstruction and extortionate demands by dominant owners upon persons seeking to develop their land or extend their buildings. Easements had been secured in many cases through the *laches* of former owners in neglecting to block windows overlooking land which at that date had no great value. But in seeking this desideratum it must be remembered that accomplished facts must be taken into account, and their effects were difficult to overrule. The trend of the opinions they had listened to seemed to be for substitution of injunctions by compensation in money, or by planning specially and giving reflected light in mitigation of interference. He agreed with that entirely as a general rule. In assessing compensation it might be just to take the manner of acquisition to some extent into account, on the principle that circumstances alter cases, rather than permit precedents to weigh so heavily. He protested against the sweeping term "blackmailing" as inapplicable universally to these cases. Blackmailing supposed a demand made entirely *ultra licitum* and in defiance of the law. But the law protected easements acquired by undisturbed user, and he thought properly so, *e.g.* in such cases as were mentioned by Mr. Hall. It was not alone in cases of light and air that people sought to get more for their property or rights than they were worth, and one of the great difficulties in adjudicating claims was the conflicting evidence of value or loss by interference given by expert witnesses. Models were most useful, and he understood that the objection lay in the way they were usually looked at—from above rather than in a level position. Infringements now were carefully watched, but in former times rights had been acquired to such an extent that he had sometimes thought it better to quietly arrange for the purchase of the adjoining house rather than attempt negotiation in regard to infringement as desired, or risk injunction. There were cases in towns where each house in a terrace built at one time had windows in the back additions on the boundary, and were lighted from adjacent gardens, and he did not think it fair that rights given by original leases (transferred later to different lessees or freeholders) should be lost within the twenty-year limit by any one extending his main building so as to block his neighbour's. With a consenting freeholder the usual clause as to not altering buildings would not be any protection. This, he thought, was a case for an injunction. *Caveat emptor* was not a satisfactory answer. Was it not acknowledged that in dealing with one's own property no injury must be inflicted on another's? Could they ask the Legislature for new laws with retrospective effect? He submitted that rights actually acquired should not be forfeited, but it was a moot point whether those in course only of acquisition should be estopped. The subject bristled with difficulties, as the many previous deliberations at the Institute showed. He hoped the wish to do something definite now might end in fruition. He felt strongly that the Surveyors' Institution should be asked to co-operate to the laudable end in view, whether it be by new legislative enactments or, as some might think sufficient, by a less narrow administration of those existing, and with less regard to iron-bound precedent.

Mr. W. M. FAWCETT, *Vice-President*, said that where a man was actually the owner of a right of light it could hardly be expected that the Legislature would take away that right. The Legislature, however, might be asked to enact that in the future no fresh rights to light should be acquired by existing buildings, and none should accrue by prescription to new buildings. In course of time the old rights would gradually pass away, as the buildings possessing them were pulled down, or were so altered as to have entirely new lights. Some mode of procedure by arbitration for existing rights might be devised, but it would be hopeless to lay down any definite rules as to angles, &c. The cases varied so greatly that only very broad principles would be applied.

Professor KERR [*F.*] said that the very great detail in which the subject had been discussed showed how extremely difficult it was to deal practically with the matter. The principle which lay at the root of the trouble was peculiar only to England, for it did not exist in Scotland or Ireland, or the United States, or indeed in any other country in the world. The principle of the law was that as light is so extremely essential, especially in crowded neighbourhoods, people shall not interfere with each other's use of it. It was an abstract principle of English common sense, and was nowhere rigidly defined. The language of the Prescription Act went no further than this, and might be interpreted in many different ways. [In proof of this, the Professor quoted dicta of two eminent Judges in light and air cases, one tried some thirty or forty years ago, and the other quite recently, which seemed to show that the construction their Lordships placed upon the Act admitted principles as wide as the poles asunder.] Although as architects they had the greatest objection to say anything about the lawyers, it must be remembered that lawyers were continually shifting their ground in law. The times changed, the circumstances of property changed, and architects must change also, but whether they could be satisfied with the natural development and change of the law was another matter. As for getting Parliament to legislate specially upon ancient lights, they might exert themselves to the utmost, but he ventured most respectfully to say that they would never succeed in inducing Parliament to take the matter up. That was why Professor Roger Smith's Committee had failed, though no man was better qualified than he to arrive at an amicable and practicable result. But the present meeting was called for the purpose of finding some way out of the difficulty. Suppose, then, that the Institute were to take upon themselves the business of adjudication on questions of this kind; suppose they authorised their Council to be a Council of Conciliation; and suppose that on a case coming before them they gave a decision—which of course would be a practical decision and an architect's decision, not a lawyer's decision—would any one be bold enough to take that decision to a Court of Law? He did not say how this suggestion could be carried out, but it was one which had not been made before. Then there was another plan. The County Council might be urged to make by-laws bearing indirectly upon questions of ancient lights. That body, if it could be induced to undertake the work, might be relied upon to frame such regulations with a single eye to doing justice and with a desire to serve the public at large. With regard to the question always asked by architects—viz. as to the amount of light which had been obstructed—his son (Mr. H. N. Kerr) had prepared some notes, illustrated by a diagram [p. 311], and by a glass model showing the actual percentage of an obstruction [see pp. 311–12]. This was discussed many years ago, and Mr. E. W. Tarn, a mathematical member, had been good enough to determine for the Institute the exact relative values of the units of sky area, and those data had never been contradicted. An examination of the model would show any person how to determine with perfect precision the percentage of light obstruction. He cordially supported the principle of Mr. Brodie's proposal, but it might be found a matter of difficulty to carry it out in detail. From his own experience in a crowded neighbourhood there was nothing more detestable in connection with an architect's business than the way in which blackmail was levied. The term had been objected to, but blackmail it was, and no milder term could be applied to it. In many cases it was nonsense to claim that rights of light would be interfered with; but the fact of its being alleged often brought about the ruin of a building. He thought that the Judges would be on their side more than they supposed as regards the application of the general principle; but he would not recommend them to go to Parliament. If Mr. Blashill and the gentlemen who piloted the Building Act through the Houses of Parliament would tell them some of the incidents of the operation they would say nothing more about legislation. Whatever the Institute chose to do courageously in the interests of good feeling and propriety would have much more effect than any change in the letter of the law. Indeed, the principle was such that he doubted whether it could be changed. The only thing was to administer the law in as practical and inoffensive a manner as possible.

Mr. EDWARD GREENOP [*A.*] regretted that Mr. Fletcher Moulton was not present to put them right on the question of the existing law. They were proposing to ask for an amendment of the law in two respects, according to Mr. Brodie's paper—first, to alter the Prescription Act permitting the acquisition of future rights; and, secondly, to alter the law as regards existing lights. As he understood Mr. Fletcher Moulton, on the second point the law required no alteration whatever. He said that as to injury which had taken place, there were two possible methods of remedy—the remedy by injunction and the remedy by damages. As regards the remedy by injunction, the building having been erected, an injunction necessarily meant pulling the building down, and that was so drastic that the Courts would not grant an injunction except in very serious cases, but would grant damages. As Mr. Moulton put it: "For this purpose, therefore, when, as is usually the case, an injunction is sought, it is necessary to show material injury in order to put an action on its feet at all." That was in the case of injury done. As regards threatened injury, Mr. Moulton said that the Court must act by injunction or not at all, for in such a case the alternative power of giving damages did not exist. But, later on, he spoke of Lord Cairns's Act, of which he said: "I think it was intended to initiate the system of freely dealing with matters of this kind by way of damages rather than injunction." In other words, for the committed injury and for the threatened injury they had at the present moment both remedies—injunction and damages. Therefore he (the speaker) saw no reason whatever for a change of the law, as suggested, to enable the Judge to make it a question of damages and not a question of injunction where injury was threatened. Professor Roger Smith spoke of the Judges being bound by precedent, and giving, therefore, only the injunction remedy and not the damages remedy; but he could not see that it was a question of precedent. It was a question of will—a question of lukewarmness on the part of the Judges, and Mr. Strahan's observations went forcibly to show that. Mr. Strahan said that "the intention of Lord Cairns's Act was to give the Court a discretion, and the decisions since the passing of the Act seemed to acknowledge that there was that discretion; but, as Mr. Fletcher Moulton said, the Courts were loth to adjudicate on what they felt themselves utterly incompetent to deal with." The fact seemed to be that the law existed, but the Judges did not exercise it, apparently because of the uncertainty induced by conflicting evidence and the unscrupulous statements made by expert witnesses on both sides. Mr. Douglass Mathews practically said the same in his Paper, and it seemed to be a question of altering the law only so far as the acquirement of future rights by the Prescription Act was concerned. Would it be possible for the Institute to approach Her Majesty's Judges and represent to them the great evils which existed, so that they might refrain from issuing injunctions except in the most flagrant cases, where irreparable damage would be done? If they were going to the Surveyors' Institution to get their co-operation in bringing about an amendment of the law in the manner suggested by the Resolution, they should make it clear that they were only referring to the acquirement of rights under the Prescription Act, and that they were not seeking to amend the law, which was sufficient, but which worked badly only because of its abuse by members of their own profession.

Mr. J. DOUGLASS MATHEWS [*F.*], speaking as Chairman and on behalf of the Practice Committee, said he was exceedingly glad that the results of the steps they had taken had been so far satisfactory, as the Meeting appeared to be almost unanimous that some alteration in the law was needed. He must point out to the previous speaker that to have any change in the law of ancient lights there must needs be an alteration in the Prescription Act. As regards the diverse opinions of Judges which had been mentioned, although there were many decisions there was scarcely one case which formed an actual precedent for another; so a hard and fast line was absolutely impossible. As to the suggestion that certain principles should be laid down, it was absolutely impossible to do this, because every case had its own special circumstances, and those circumstances must be taken into account in adjusting differences. A strong point in the Report of the Committee was—that whether it be the third surveyor, or the umpire, or the Court of Appeal, whoever was adjudicating should have the opportunity of visiting the site and noting all the circumstances, and not having to depend upon drawings or models. In reference to that ugly word "blackmail," Mr. Hudson seemed to have the idea that the term was intended to apply in every case where a man defended his right. That was altogether a wrong notion. An owner was perfectly justified in protecting his right, and if he got moderate compensation no one could find fault. But if he had the whip hand and insisted upon having £500 for what was not worth £50, in that case there could be no doubt that the term "blackmail" applied. One speaker had objected to the Surveyors' Institution being invited to co-operate in this matter. He would explain that the Practice Committee thought it would be desirable to enlist the sympathies of the Surveyors' Institution for two reasons—because it was a large body, comprising representatives of property in every shape and form, and because the need of an alteration in the law had been before that Institution upon one or two occasions, and they felt strongly upon it. The Surveyors' Institution also included a large number of eminent barristers and solicitors, and their assistance might be of great advantage to the Institute in dealing with legal points of the matter. In answer to Professor Kerr's suggestion as to the County Council making by-laws, he would point out that this was not a matter which belonged entirely to London—the whole country was concerned. Light and air questions, which a few years ago were almost confined to London, were now springing up all over the country, and especially in large cities and towns. His opinion was that the matter was far too important to be dealt with by ordinary by-laws. He trusted that the Resolution would be agreed to, and that some action would be taken by the Institute which would bring the matter to the front. Doubtless they would meet with difficulties in obtaining a new Act; but if they could not get the law altered at any rate the discussion would, he felt sure, be advantageous to the profession, and they would probably be able to settle many cases outside the Courts that were now settled or attempted to be settled inside.

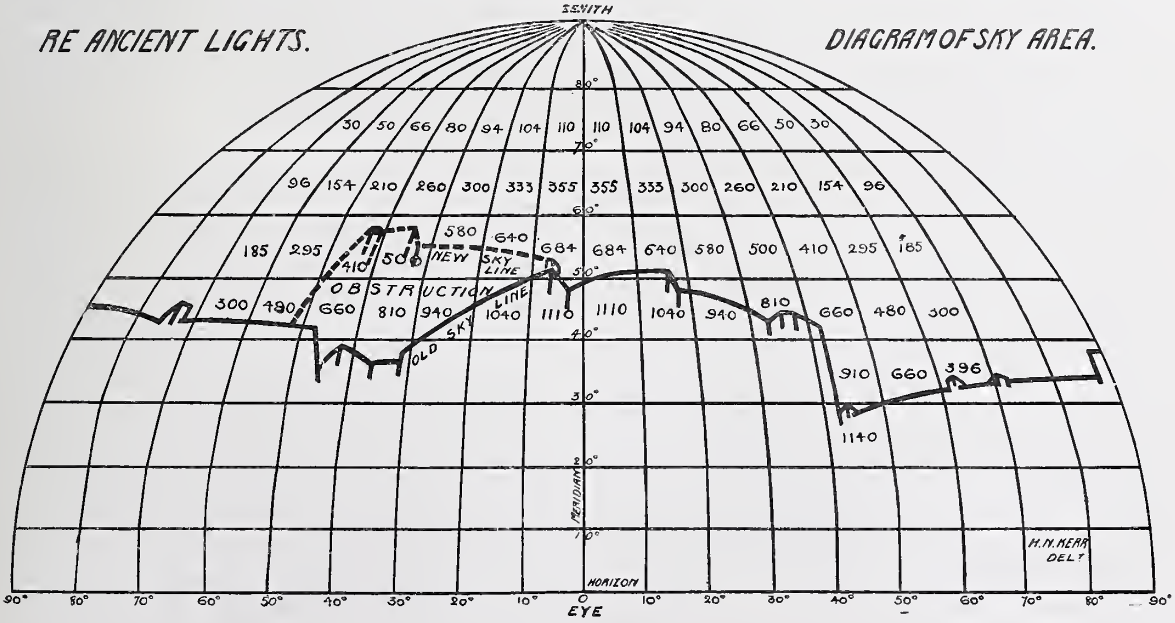
The PRESIDENT remarked that with reference to seeking the co-operation of the Surveyors' Institution he personally was of opinion that the influence of that body would assist very materially in settling the question. Many of its members were men of great experience in these matters, and their present President had served on the Institute Council for many years.

The Resolution was then put to the meeting and carried unanimously.

The PRESIDENT said that the matter seemed to have become narrowed down to one or two points. They could not possibly interfere with present rights of light; they wanted some better procedure for deciding questions that arose under the present law; and they wanted to prevent the acquisition of future rights of light as far as possible. Such matters could only be dealt with by experts, and the best plan would be for the Council to select some such Committee as he had suggested at the commencement. The matter would be considered by the Council at a very early date, and he hoped that before long they should have something practical to lay before the general body.

The following are the notes referred to in Professor Kerr's remarks as having been prepared by his son, Mr. H. N. Kerr, to show a process of determining the amount of light obstructed from a certain area:—

The object of a diagram of sky in a case of ancient lights is to determine what percentage of the amount of light is being taken away by the new obstruction. The whole expanse of the sky



is taken as being an illuminating vault around the aggrieved window, in the form of a half-hemisphere, and the light in question is taken to be diffused light, the sun being hidden.

A block plan of the surroundings, old and new, of the aggrieved window is first prepared, with the heights of the sky line above the point of sight marked thereon.

As a preliminary measure the half-hemisphere is divided into convenient units—say, 10 degrees by 10 by parallels of latitude and longitude—and the comparative values of these units were determined some years ago with mathematical precision by a member of the Institute, Mr. Wyndham Tarn, whose calculations will be found recorded in the TRANSACTIONS of that date.*

The first step is then to project geometrically on the diagram the old sky line, so as to show the precise area of exposed sky formerly enjoyed by the window. The second step is to project in a similar way the new sky line, so as to show the extent of the encroachment.

It then becomes an easy matter to reckon up the value of the old exposed sky, and to ascertain what percentage of this is covered by the encroachment. Whether this shows a material damage or not is then matter for judgment. As regards the point of sight, it will generally be the centre of the aggrieved window as an average for the whole; but in some circumstances the sill may be taken; or even a point within the room representing the position of a special user, such as a writing desk or the working point of a bench. The form of the diagram may be either rectangular or semicircular, and a glass model may be useful for explanation. H. N. KERR.

Referring to the Papers on Ancient Lights read on the 19th March, Mr. Henry Lovegrove [*A.*] writes:—

I am glad to support the vote of thanks to the three gentlemen who have so kindly taken the trouble to write such concise and practical papers on the vexed question of right to light and air.

The eminent Queen's Counsel and scientist Mr. Moulton has at the outset informed us that right of light is the proper title of the subject, and it is strange that much ignorance on the matter should exist. Only last week I had complaints that a building in course of erection in my district was obstructing the light and causing a serious diminution of air. I told the parties that such matters were not embraced by the London Building Act, and advised them to let the matter drop. The building was at least sixty feet away from the complainants' windows, a distance which affords very fair breathing space for the rear of a house in London.

The most curious case within my knowledge is that of a man who was successful in an action to prevent injury to his light for an irregular wooden shed in which herrings were prepared for curing.

Mr. Mathews has ably sketched out the various kinds of objections made when anybody begins to build, but he omitted to mention that as soon as the excavations are commenced most of the houses within a reasonable distance are decorated with boards bearing the legend "Ancient Lights," as if the exhibition of the board had any legal bearing on the rights of the parties.

Mr. Mathews refers to the labours of the Science Committee (of which I was Secretary) a few years ago. The members agreed that something definite should be done, and they hoped that their Report might become the basis of legislation; but many, including myself, feared that with so many lawyers in the House of Commons there was little prospect of getting an Act passed.

I am inclined to think that all matters of injury to light could be settled by such a Tribunal as that appointed under the Building Act. The hindrances to building on certain sites are great, and a hardship to owners. I know of an important building, which could have been completed in, say, four months, stand over for two years, owing to successive actions by adjoining owners, and many a small and unimportant window has ruined a good building.

Mr. Beresford Pite has carefully explained the proposals of the Science Committee in 1893 and the important suggestion made by Professor Roger Smith. The objection to the appointment of three surveyors would be met by the elected Tribunal, which includes a representative of the Bar. The concluding pages of Mr. Pite's paper should be carefully read and considered by members of the Institute who desire to plan their buildings to meet their clients' views and to avoid having their elevations cut off in such a manner as to destroy the effect of the façade.

The late William James Anderson [*A.*]

The untimely death of Mr. William J. Anderson, at the age of thirty-six, is a loss not only to the profession of which he gave certain promise of becoming a brilliant ornament, but to the larger world interested in the knowledge and appreciation of architecture. As a practising architect, as a teacher of the art, as a writer concerning it, his work may be said to have but just commenced; but already in all three directions he showed himself to be endowed with marked ability. Only those who had the opportunity of coming in close touch with him, either as co-worker or pupil, could appreciate the value of his work in the first two directions; in the last, his book, *The Architecture of the Renaissance in Italy*, published first in 1896 and reissued in greatly improved form as a second edition some eighteen months since, brought him speedy recognition on the part of an infinitely wider circle both in this country and America. It was the more to his credit that he enjoyed no special opportunities of education beyond such as were offered to all in his earlier years, office routine and private reading, and infinitely less than is within the reach of most learners in the art to-day. His apprenticeship was served with Mr. Gillespie, of Saint Andrews; from there he passed to an office in Dundee and ultimately to Glasgow, where he worked as draughtsman successively with Mr. T. L. Watson and Mr. William Leiper. He commenced practice on his own account in 1892. About this time also his first book, *Architectural Studies in Italy*, was published, consisting of an interesting collection of measured drawings and sketches made during his tour in that country as holder of the "Alexander Thomson Memorial Studentship." In it is manifested a fine discrimination in the selection of subjects of study, and an early appreciation of the refined work of Peruzzi, his favourite master throughout, together with the straightforwardness and grip which always characterised his work as a draughtsman.

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* "On the Admeasurement of Sky in Cases of Light." —TRANSACTIONS 1869–70, p. 160.

In 1894 he was appointed Director of the architectural department of the Glasgow School of Art, a post which he was peculiarly suited to fill with acceptance, and in which his influence for good was increasingly felt from year to year. To his work at the school he devoted himself without stint; learned photography that he might furnish himself with the slides that he felt his lectures required for illustrations, and, besides teaching, supervising, and lecturing, personally conducted his students during the Easter and other holidays on excursions extending for three or four days to one or other of the many places of architectural interest throughout the country.

From his first course of lectures grew his better known work on Italian Renaissance architecture, already referred to, which having been but recently reviewed in these pages need not now be further commented on. With a similar origin a second book on Greek and Roman architecture was taken in hand, and to a large extent was ready for the press at the time of his death; while a third, on French architecture, was projected and partly written. It is to be hoped that arrangements may yet be made for carrying through one, if not both, of these works.

Teaching and writing (both books and press work) naturally limited very materially the time which would otherwise have been devoted to the ordinary practice of his profession. Mr. Anderson never had the opportunity of carrying out any very large or monumental works, but notwithstanding his other labours he was steadily developing a connection, and all his work, whether in stone and lime, or in decoration, of which he did a considerable amount, was marked by dignity of conception, combined with refinement in detail. Besides being an Associate of the Royal Institute of British Architects, Mr. Anderson was an active worker for many years and for two terms President of the Glasgow Architectural Association. He leaves a young widow and infant son, with whom much sympathy is felt by his many admirers and friends.

Glasgow. ALEXANDER W. PATERSON.

MINUTES. XII.

At an Adjourned General Meeting, held Monday, 9th April 1900, at 8 p.m., Mr. Wm. Emerson, *President*, in the Chair, with 18 Fellows (including 8 members of the Council), 15 Associates (including 1 member of the Council), and visitors, the Minutes of the Meeting held Monday, 2nd April 1900 (*ante*, p. 284), were taken as read and signed as correct.

The decease was announced of Signor Michele Ruggiero [*Hon. Corr. M. Rome*], and it was agreed that a letter of condolence should be sent to his relatives.

The discussion on the question of Reform in the Law of Ancient Lights, adjourned from the Meeting of the 19th March, having been resumed, and communications thereon read from Mr. T. M. Rickman [*A.*], President of the Surveyors' Institution, and Mr. Arthur Cates, a resolution urging the Council to take action in the matter was moved by Mr. C. H. Brodie, on behalf of the Practice Standing Committee, and seconded by Professor T. Roger Smith, whereupon, after further discussion, it was

> RESOLVED, That this Meeting considers an alteration in the Law of Ancient Lights to be urgently needed, and requests the Council to put itself into communication with the Council of the Surveyors' Institution without delay, with a view to the co-operation of that body in taking such steps as may be necessary to secure an amendment.

The proceedings then closed, and the Meeting separated at 10.30 p.m.

At the Twelfth General Meeting (Ordinary) of the Session 1899-1900, held Monday, 23rd April 1900, at 8 p.m., the President, Mr. Wm. Emerson, in the Chair, with 12 Fellows (including 5 members of the Council), 8 Associates, and visitors, the Minutes of the Meeting held 9th April were taken as read and signed as correct.

The decease was announced of Benjamin Edmund Ferrey, F.S.A. [*F.*]

The following Fellow attending for the first time since his election was formally admitted and signed the Register—viz. William White Cooper, M.A. Cantab., Diocesan Architect to the Diocese of Grahamstown, Cape Colony.

The Hon. Secretary having drawn attention to a portrait of the late Mr. Reynolds Rowe, *Fellow*, which had been presented by his widow, moved, and it was thereupon resolved, that the thanks of the Institute be accorded to Mrs. Rowe for her kind donation.

The results were announced of the Statutory Examination for the Office of District Surveyor, held by the Institute on the 19th and 20th April [see p. 299].

A Paper on the PROTECTION OF PUBLIC BUILDINGS FROM LIGHTNING, by Mr. Killingworth Hedges, having been read by the author and illustrated by lantern-views, a discussion ensued, in the course of which a further series of lantern-views were shown by Mr. Wm. Marriott, Secretary of the Royal Meteorological Society, in illustration of his remarks on phenomena observable in lightning flashes and thunderstorms, whereupon the thanks of the Meeting were accorded to both gentlemen by acclamation.

The proceedings then closed, and the Meeting separated at 10.10 p.m.

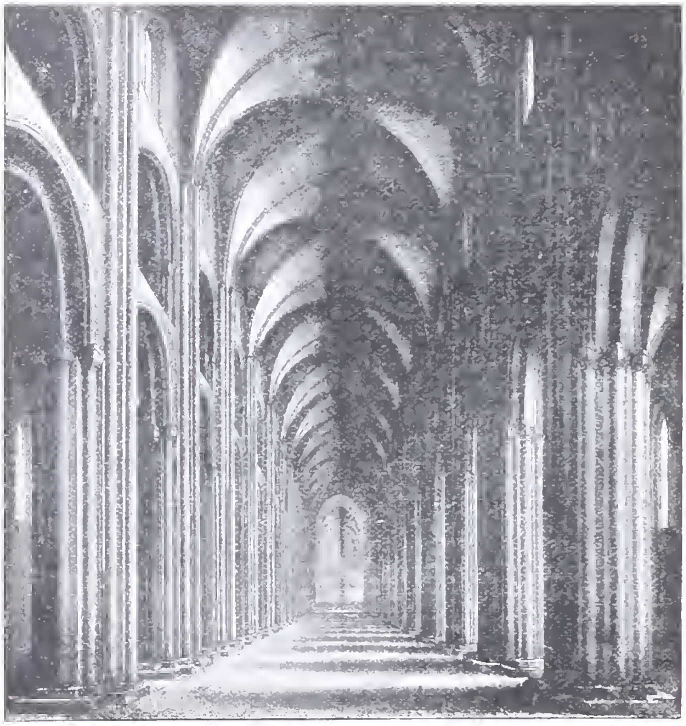
REVIEWS.

ST. PAUL'S CATHEDRAL.

The Cathedral Church of St. Paul. An account of the Old and New Buildings with a short Historical Sketch. By the Rev. Arthur Dimock, M.A., Rector of Wetherden, Suffolk. 8o. Lond. 1900. Price 1s. 6d. [Messrs. George Bell and Sons, York Street, Covent Garden.]

It is perhaps fitting, in a country so rich in mediæval cathedrals and abbeys, that some nineteen of them should be dealt with in these illustrated handbooks before the Metropolitan masterpiece of Sir Christopher Wren takes its turn. Perhaps, too, on the principle that we see less of what is passing close to our eyes, they have commissioned for the task the rector of a mid-Suffolk village, and the selection is justified by the result.

The 150 pages of the compilation are made up of one-third history of the see and Old St. Paul's, one-third description of the exterior of the existing fabric, and one-third that of the interior of the same. Clear ground plans of both buildings are given, and the book is illustrated with thirty-seven "process" views of both structures, the most novel reproduction being that of an elevation which received the royal warrant, but, fortunately, was not adhered to.



THE NAVE OF OLD ST. PAUL'S.

After Hollar.

Appendices give a list of the bishops from Restitutus, A.D. 314, to the present day, and a table of areas of some of the largest churches in Christendom, St. Paul's taking fifth place.

History.—In Chapters I., II., and III., the salient points in the history of the see, and early buildings are touched upon; from the rude fane of Restitutus, through the rebuildings by or through Augustine, Lanfranc, Richard de Belmeis, and others down to 1666; their vicissitudes and accidents by fire, and the ravages of time duly related. Reference is made to the institution of archdeaconries, the grades of chancellors, precentors and treasurers; the creation of the prebends, chapter, petty canons, chantries, &c.

The rites and services erstwhile appointed to be performed, the *Te Deums* for victory, the fights for church freedom, the efforts of the Reformers, the contest between Romanist and Protestant, and the final desecration of the Cathedral under the Stuarts, when the nave was the resort of rogues and thieves, and became

> "The land's epitome—the general mart of
> All famous lies,"

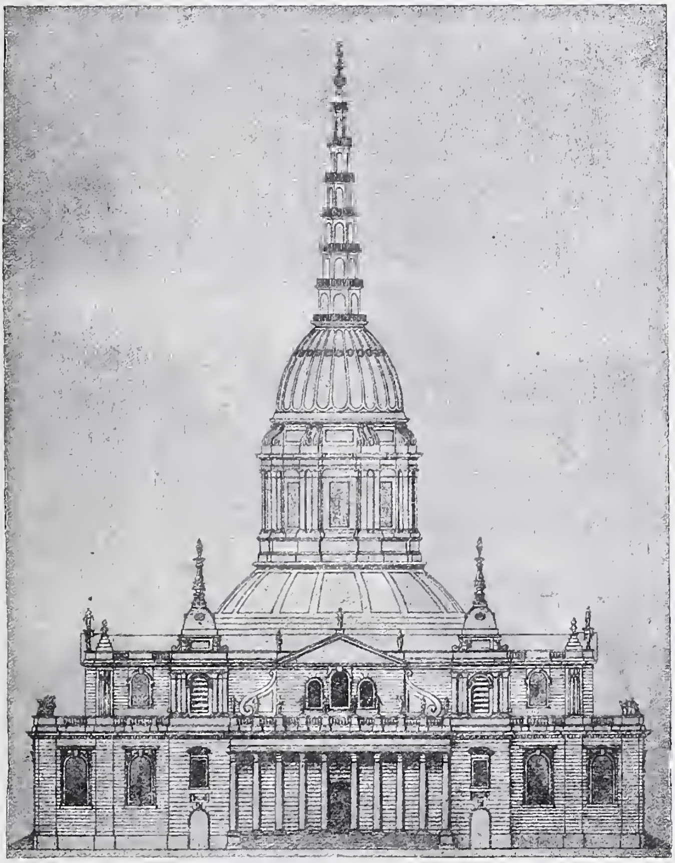
receive brief notice. Then follow Inigo Jones's repairs and additions in heavy classic stonework, Sir Paul Pindar's restoration of the choir-screen—one dreads to think what that meant—the Cromwellian desecration, the Plague, and the Great Fire.

If Old St. Paul's had but been saved! What scope for the work of the nineteenth century Gothic revivalist! Westminster would have had a formidable rival, and London possessed a noble Norman nave, while St. Bartholomew's lost its pre-eminence for remains of that period.

Exterior. — In Chapters IV. and V., comprehending the central division of the book, Wren's several designs for the rebuilding are illustrated. We have first the better-known Greek Cross arrangement, practically without choir; then the extended plan with minor dome added to the West. This being rejected, a heavy design known as the "Warrant" design received the king's approval. It resembled the destroyed work of Jones, and it is matter of satisfaction it was not carried out, although in perspective the grouping would have been less objectionable than in the elevation given from a drawing in All Souls' College, Oxford. Its lines resemble the main front of the Pantheon at Rome, with its dome surmounted by a drum, and the cupola of the "Invalides" at Paris superimposed, and the whole topped by the spire of St. Bride's, Fleet Street!

Looking at the completed building, few will regret that this design was so widely departed from, notwithstanding the order that it was "only to be departed from in the way of ornament." In spite of the restrictions and vexatious interference to which Wren was subjected, he took a licence in this respect which few modern architects would take after a design had been approved. In the lesser matter of the addition of a balustrade to the cornice which he had not intended, he was, in spite of protest, forced to submit. The retention of half his humble salary of £200 a year to induce him to hurry on the building was but one of the indignities heaped upon him.

Referring to a footnote on p. 68, one must join issue with the author as to making Wren's remarks upon architecture "compulsory for every student." One could not now, after the teachings of Pugin, Ruskin, and Viollet-le-Duc, go back to dogmas such as "Gothick buttresses are all ill - favoured ;" "Almost all the cathedrals of the Gothick Form are weak and defective in the Poise of the Vault of the Aile ;" "Affectation of Height and Grandeur, though without Regularity and good Proportion in most of them," &c. The settlements he complains of in such structures are not the fault of want of scientific skill, but unstable foundations,* and lack of good material ; and in his own building here, the former cause was answerable for serious settlements, but a positive benefit accrued from the latter, inasmuch as want of large blocks of stone saved us from Brobdingnagian columns, and gave us instead coupled columns of graceful proportion. A section of the dome as executed is given in this chapter, showing false ceiling within, and timber shell without ; now, we hope, rendered fire-resisting, if not fire-proof.



THE "WARRANT" DESIGN.

From a drawing in All Souls' College, Oxford. Reproduced from Blomfield's "Renaissance Architecture."

The vexed question of the false curtain-wall is met by a *tu quoque* suggestion of the author's, which Wren might have made to any indictment by a mediævalist, viz. a roof at Ely Cathedral was "dropped down" behind the clerestory, leaving a tier of windows through which flying buttresses could be seen. Wren's avowed principle, however, can only be considered as waste of material, besides requiring unnecessary strength of foundation. "I do not add buttresses," he says, "*but I build up the wall so high as by the additional extra weight I establish it as firmly as if I had added buttresses.*" The alteration at Ely is really no answer to a question of principle, being an afterthought to meet altered circumstances. In Chapters VI. and VII. we pass to the interior ; the description is divided into Nave, Dome, Transepts, Choir, Monuments, Crypt, and Library, and these headings into subsections.

The author is doubtful as to what Wren would have said in regard to the introduction of the reredos of Messrs. Bodley and Garner, splendid work though it be. It raised much discussion at the time it was set up, but nothing to that originated by the decoration installed by Sir W. B. Richmond, R.A. As to this the author (like the artist himself) appeals to posterity ; not precisely, however, on the lines of the now famous letter to *The Times.* Sir William makes the mistake of supposing that the only protests and objections emanated from "certain young ladies and gentlemen of the Slade School of Art and elsewhere." No one, so far as the reviewer is aware, and he has attentively followed much that has been said and written, has in the abstract denied that "*good and appropriate decoration* would not be contrary to the wishes of Sir Christopher Wren." "Sermons in glass" these mosaic decorations undoubtedly are, but they speak in different, if not in uncertain, terms and tones to different auditors. That the process itself is splendid, probably few will deny; but the keynote struck thereby in St. Paul's, many such would only admit into a Byzantine building. In *more quietness* and in *less confidence* would have been its strength, in the humble opinion of those who believe with Ruskin that it should be "a feast where there is nothing redundant, never a sense of gap or blank, nor of a member which could be spared, that the decorator should diffuse the ornament *in due relation over* the whole building, or so concentrate it as never to leave a sense of its having got into knots, for every added order of ornament increases the difficulty of discipline." These experiments of decoration prove this up to the hilt. It was felt that discipline was going by the board when the stencil-work had to be added * to try to keep up the equilibrium of tone so forcibly disturbed by the mosaics. Though the simple chasteness of the choir was gone, the outcry showed the entire "moral character"—to borrow a Ruskinism—of the stonework must not follow; for ornament is always "*wild to get the bit in its teeth, and rush forth on its own devices.*" Mr. Gilbert, R.A., calls Wren a "sculptor-architect"; and if he thought of using mosaics, "Proutism" would have dominated his design, but so that the chasteness of the interior would not have been, as it were, swamped, but decoration been subservient to architecture, not governing, but governed by it. "I may not say more, I cannot say less." † A view purporting to show Wren's idea for decorating the interior with sculpture was published in 1755. Who shall say the committee have carried out "*Wren's conception* on a large and well-organised scale"?

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* Old St. Paul's was built on loam or brick earth.

The Jesus, or properly Liddon, Chapel suffers from want of light, and the beauty of the reredos and altar-piece is lost on most days in cimmerian darkness. To have seen this fine painting by the side of Cima's original in the National Gallery was sufficient to make one accord great praise to the artist, Mr. Anthony de Bree, whose works, though little known to the general public, are to be found in the best private collections in England.

Wren's previous years are dealt with at the beginning of Chap. IV., and noting the few opportunities he had of making himself acquainted with Classic work on the Continent, it is clear that it was no mere compliment that Sprat paid in writing of his "extraordinary genius." The way he "copied in Fancy and Memory" Bernini's design of the Louvre, in a five minutes' reluctant display of it, shows how rapidly he received and retained architectural impressions, and in the words of the author anent St. Paul's, "instead of echoing complaints, it is surely better to be thankful we have one cathedral, situated in the greatest centre of population, in the latter style." "Even so we may end here, and describe this unique and marvellous conception of a man who was not a trained architect, as the finest church of the Renaissance style and epoch"—at all events in the United Kingdom.

A description of the monuments brings this excellent guide-book to a close.

EDW. W. HUDSON.

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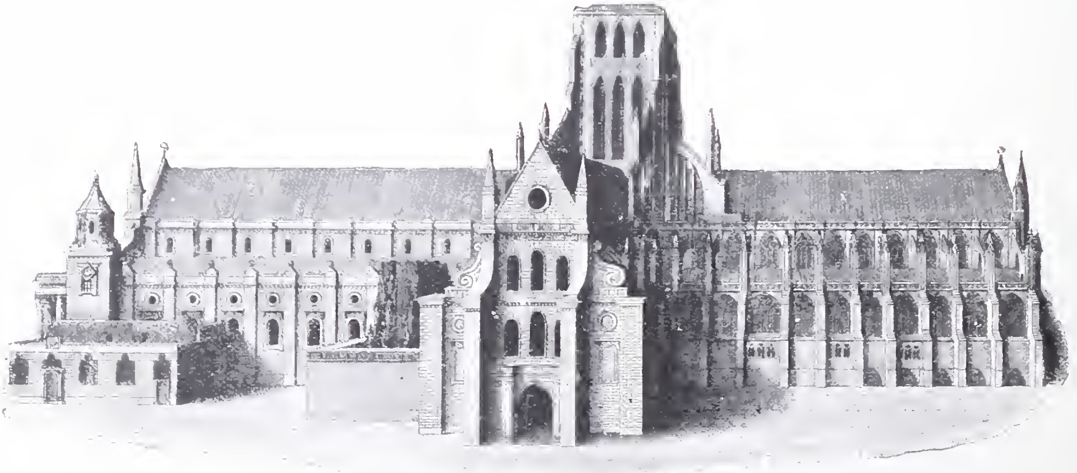
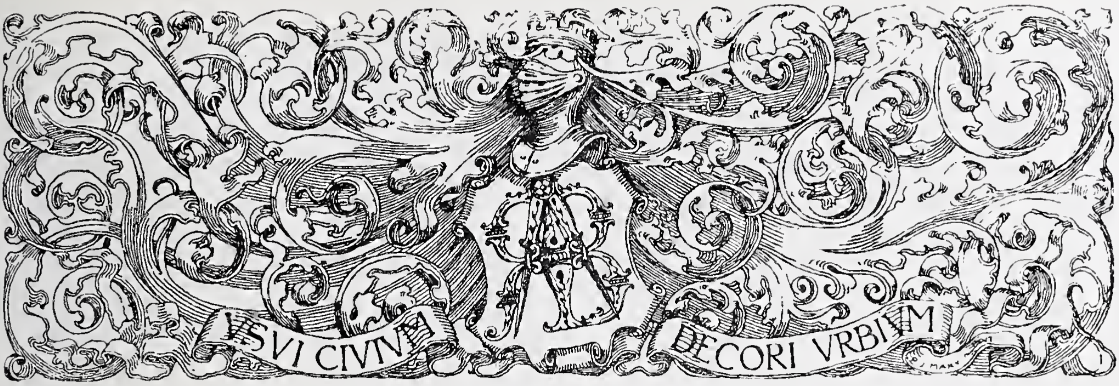
* This has been stopped through reiterated protests and acknowledged as an experiment. The effects may be seen in contrast in the octagon of the dome.

† Arthur Milman, son of the late Dean, whose wish was "to see such decorations introduced as may give some splendour while they do not disturb the solemnity or exquisite simplicity of the edifice."



SOUTH VIEW OF OLD ST. PAUL'S IN 1658.



REPORT OF THE COUNCIL FOR THE OFFICIAL YEAR 1899–1900.

Approved and adopted by the Annual General Meeting, Monday, 7th May 1900.

SINCE the publication of the last Annual Report, on the 6th May 1899, 17 meetings of the Council have been held, of which the Council elected on the 5th June 1899 have held 14. These are exclusive of meetings held by Committees of Council.

In the course of the year 32 Fellows have been elected, 38 Associates, 1 Hon. Fellow, 1 Hon. Associate, and 1 Hon. Corr. Member. Of the 32 Fellows, 11 have been elected by the Council under the proviso to By-law 9, 4 being Presidents of Allied Societies, and 7 having been unanimously recommended by the Councils of Allied Societies. The total number of subscribing members is 1,678. The following tabular statement, showing the growth of the Institute during the last fifty years, may be found of interest:

Year	Fellows	Associates	Contributing Visitors	Hon. Associates	Total
1850	120	95	—	—	215
1860	173	139	12	—	324
1870	275	235	10	—	520
1880	346	335	—	115	796
1890	519	768	—	80	1367
1900	620	1013	—	45	1678

The only Hon. Corr. Member elected is the Comte de Suzor, of St. Petersburg.

Death has robbed the Institute of several members of high distinction—the Duke of Westminster and John Ruskin from the class of Honorary Fellows; William Simpson, whose ever ready help in Oriental questions is a great loss to the JOURNAL, from the class of Honorary Associates; Sir Arthur Blomfield and William White, from the class of Fellows; and Paul Sédille, the famous French architect, who for many years had been an Hon. Corr. Member of the Institute.

The total losses by death during the past year are as follows:—*Fellows*: Charles Bell, Sir Arthur Blomfield, Thomas Elworthy, Benjamin Edmund Ferrey, Professor Banister Fletcher, Thomas James Flockton, William Kidner, Edward John Lowther, Thomas Cooke Nicholson, William Willmer Pocock, Richard Reynolds Rowe, Frederick William Stevens, William Wilkinson Wardell, William White, Stephen William Williams. *Retired Fellows:* Alexander Kendall Mackinnon, Francis Thomas Dollman. *Associates:* William James

Anderson, Henry Hockey Burnell, Charles Henry Purday, James Hewitson Shaw, Eley Emlyn White. *Hon. Associate:* William Simpson. *Hon. Fellows:* The Duke of Westminster, John Ruskin. *Hon. Corr. Members:* Paul Sédille, J. von Egle, Michele Ruggiero.

Preliminary and Intermediate Examinations were held in June and November 1899 in London, Birmingham, Bristol, Cardiff, Dublin, Glasgow, Manchester, Newcastle (in June only), and York, and Final Examinations in London. The results are shown in the following tabulated forms:—

PRELIMINARY EXAMINATION.

	Exempted	Examined	Passed	Relegated
Summer	25	166	126	40
Autumn	34	120	63	57
Total	59	286	189	97

INTERMEDIATE EXAMINATION.

	Examined	Passed	Relegated
Summer	54	28	26
Autumn	65	35	30
Total	119	63	56

FINAL AND SPECIAL EXAMINATIONS.

	Examined	Passed	Relegated
Summer	37	15	22
Autumn	47	22	25
Total	84	37	47

It will be seen that during the year 248 gentlemen have been registered as *Probationers*, the number of whom now stands at 1,283, and 63 as *Students*, the number of whom now stands at 333.

The Council take this opportunity of drawing attention to the great increase in the number of candidates in 1899, the fees received amounting to £992 5*s.* as against £783 6*s.* received during 1898.

The Council greatly regret to say that the Arthur Cates prizes for the best sets of testimonies of study (supplemented by certain specified sheets of drawings) submitted by Students for admission to the Final Examination, have not been awarded this year, no Student who had passed the examination having observed the conditions.

The Ashpitel Prize has been awarded to Mr. R. T. Barker [*A.*], who passed the Final Examination in June.

The Council desire to express their cordial thanks to the Board of Examiners for their services, and also to the Allied Societies of Birmingham, Bristol, Cardiff, Dublin, Glasgow, Manchester, Newcastle, and York, for their help in conducting examinations at their various centres during the year.

Statutory Examinations have been held in October and April last, when Certificates of Competency to act as district surveyors in London were granted to Messrs. C. A. Daubney, H. N. Kerr, W. H. Woodward, and E. A. Young [*A.*].

The Royal Gold Medal was awarded last year to Mr. G. F. Bodley, A.R.A., for his works as an architect. Her Majesty has graciously signified her approval that it shall be awarded this year to the Professore Commendatore Rodolfo Lanciani, *Hon. Corr. Member* (Rome), for his works as an archæologist and architectural writer.

The Deed of Award of the various Prizes and Studentships was presented to the Institute at a General Meeting on the 22nd January. At the distribution of Prizes on the 5th February, a critical appreciation of the work submitted was read by Mr. G. F. Bodley, A.R.A.

An exhibition of the drawings was held from the 17th to the 27th January in the hall of the Alpine Club. This was found to be so satisfactory that the Council have arranged with the committee of the Club for the use of their hall again next year.

The following selection from the Institute Prize Drawings is now being sent round for exhibition at the allied centres:—

The Royal Institute Silver Medal (*Measured Drawings*).—St. John's College, Oxford (3 strainers), by Mr. James B. Fulton (under motto " Unicorn "), awarded the Medal and Ten Guineas.—Raynham Hall (3 strainers), by Mr. H. Inigo Triggs (device " White Wheel "), awarded Hon. Mention.

The Soane Medallion.—Design for a School of Fine Art (1 strainer), by Mr. Cyril E. Power (motto " S. Barbara "), awarded the Medallion and £100.

The Owen Jones Studentship.—Drawings by Mr. Geo. A. Paterson (3 strainers), awarded the Certificate and £100.—Drawings by Mr. James B. Fulton (2 strainers), awarded Medal of Merit.—Drawings by Mr. J. Hervey Rutherford (2 strainers), awarded Medal of Merit.

The Pugin Studentship.—Drawings by Mr. James McLachlan (3 strainers), awarded the Medal and £40.—Drawings by Mr. J. A. Woore (2 strainers), awarded Medal of Merit.—Drawings by Mr. John Jerdan (1 strainer) and Mr. Shirley Harrison (1 strainer).

The Tite Prize.—Designs for an isolated Clock Tower and Belfry (2 strainers), by Mr. Percy E. Nobbs (motto " Edificaturus "), awarded the Certificate and £30.—Mr. W. A. Mellon (motto " Bow Bells "), (2 strainers), awarded Medal of Merit.

The Grissell Medal.—Design for a Spiral Staircase (2 strainers), by Mr. Charles E. Varndell (motto " Loire "), awarded Gold Medal and £10 10*s*.

Testimonies of Study (20 sheets).—Drawings by Messrs. W. H. Ansell and T. J. Byrne (*Final Examination*).—Drawings by Messrs. L. L. Bright and C. E. Varndell (*Intermediate Examination*).

The Royal Institute Annual Dinner was held last year in London, at the Whitehall Rooms, on Tuesday, the 27th June. This year it will be held during the Congress week on Friday the 22nd June, in London, at the Whitehall Rooms.

The Council are in the midst of preparations for an Architectural Congress to be held in London during the week commencing the 18th June. The programme, as soon as it is completed, will be in the hands of members. It will include papers and discussions on architectural questions, visits to places of interest, the presentation of the Royal Gold Medal, a Conversazione at Guildhall, by the kind permission of the Lord Mayor and Corporation, and the Annual Dinner. A General Committee of distinguished persons, architects and other artists, has been formed, which includes the names of Lord Windsor, Lord Strathcona, the Right Hon. A. Akers-Douglas, Sir W. B. Richmond, Sir L. Alma-Tadema, Mr. Basil Champneys, Mr. Walter Crane, &c. &c.

The Council have resolved upon a scheme for holding the Special Examination in the Colonies, and the first will be held in June 1901 in Montreal and Sydney, simultaneously with that held in the United Kingdom. It will be open to all architects over the age of twenty-five. The examination will be conducted on precisely similar lines to those held at provincial centres; that is to say, the testimonies of study and the answers to papers will be adjudicated upon by the Board of Examiners sitting in London, and the oral alone will be conducted by the local committees. The Council have arranged that these local committees, appointed under the various local Architectural Societies, shall be in every way representative and responsible. As soon as South African affairs are cleared up, the examinations will be held in Cape Town and elsewhere.

Adopting the report of a Committee that had been in frequent communication with the Association of Technical Institutions, the Council have arranged that certain certificates of the Science and Art Department shall be accepted as exempting from portions of the Preliminary and Intermediate Examinations. The facts are notified in the current Kalendar.

A deputation of the Institute waited upon Mr. T. W. Russell, M.P., President of the Local Government Board, to lay before him the Report of the Special Committee on the administration of Building By-laws in non-metropolitan districts, and the resolution of the Institute as to the extension to the provinces of the London system of dealing with rights as to party-walls. The President of the Local Government Board informed the deputation that no legislation was yet possible, but, short of legislation, the Board would do all in their power to meet the views of the Institute. [See JOURNAL, Vol. VI., pp. 449, 459, and current volume, p. 18.]

Delegates from the Council having viewed the drawings and models for the proposed new bridge at Vauxhall, the Council addressed, on the 8th November last, a final letter of suggestion and criticism to the London County Council. This letter, together with the acknowledgment from the Clerk of the L.C.C., has been printed in the JOURNAL [current volume, p. 78.]

The Council have addressed a letter to the Secretary of State for the Colonies protesting against the proposed demolition of the old Curtain Wall at Famagusta, in the Island of Cyprus. A reply has been received from the Colonial Office stating that the letter has been referred to the High Commissioner of Cyprus.

At the request of the Royal Commission of the Paris Exhibition, 1900, the President nominated three members of the Institute to act on the International Jury, of whom one, Mr. Thomas W. Cutler, has been selected.

The Council, acting on behalf of the Institute, which was one of the seven original representative bodies concerned in the establishment of the Sanitary Inspectors' Examination Board, have advanced the sum of £30 towards the initial expenses of the Board. This sum will be regarded as a first claim on profits accruing to the Board in respect of fees for examination. Mr. Thomas W. Cutler has consented to act as the Institute's representative on the Board.

The Council hope shortly to be in a position to submit to the general body a Form of Contract as agreed upon between them and the Institute of Builders with whom they are still in communication.

The Council have given their attention to various schemes for acquiring new premises for the Institute, but are not yet in a position to make any report.

The Council have reappointed Mr. Arthur Cates as a member of the Tribunal of Appeal.

Since the present Council came into office, the President has appointed twenty-one arbitrators under building contracts, and eleven assessors in the following public competitions: Clacton-on-Sea Improvement, Corsham Hospital, Fulham Vestry Baths and Wash-houses, Abingdon School Board, Burnley Technical Schools, Bury Infectious Diseases Hospital, Newcastle School of Cookery, Dorking Hospital, Walsall Town Hall, Cameron Memorial Hospital (West Hartlepool), Berkhampstead Girls' Grammar School Buildings.

During the past year a considerable body among the Associates have approached the Council through chosen representatives, in order to place before them certain disabilities that lay upon the class of Associates, and to obtain, if possible, a larger share in the working of the Institute. The question of greater variation in the composition of the Council was also urged. The Council, after giving the matters the most earnest consideration, made a recommendation, now approved by the general body, that the By-laws should be so altered as to provide two extra Associate seats on the Council, to remove the restrictions on Associates' eligibility to serve on the Council, so that any Associate may be eligible to serve, and, by abolishing the asterisks before the names of members of the existing Council on the voting lists, to secure an even chance of election for all nominees. The Council hope that, while convinced of the necessity of maintaining the dignity and prestige of so important an authority as the

Council of the Royal Institute of British Architects, they have acted in this matter in no illiberal spirit towards the younger members of the profession.

The Council are pleased to inform members of the continued financial prosperity of the Institute, the balance of receipts over expenditure being £1,125. The somewhat increased cost of the JOURNAL is due to several heavily illustrated papers in the volume. The estimated income was exceeded by £187, notwithstanding a falling off of subscriptions, owing to a greater number of members than usual being in arrear.

Since the 31st December 1899 the Council have invested £1,219 11*s.* in Canadian 3 per Cent. Inscribed Stock, and the invested capital of the Institute now stands at £8,950 9*s.* 5*d.*

REPORT OF THE LITERATURE STANDING COMMITTEE.

Since the election of the present Committee, on 12th June 1899, the Literature Committee have held eight meetings.

At the first meeting Professor Elsey Smith and Mr. Arthur S. Flower were appointed Hon. Secretaries, and at the next meeting Mr. R. Phenè Spiers was appointed Chairman, and Mr. H. Heathcote Statham, Vice-Chairman.

The following Sessional Papers arranged for by the Committee have been read:—"Excavations in Cyprus, 1896," by Dr. A. S. Murray [*H.A.*], F.S.A., on 20th November 1899; "The Architect in Relation to Fire Prevention," by Thomas Blashill [*F.*], on 18th December; "The John Rylands Library, Manchester," by Basil Champneys, B.A., on 22nd January 1900; "Notes sur les Palais de l'Exposition de Paris en 1900," by M. Charles Lucas [*Hon. Corr. M.*, Paris], on 19th February; "Reform in the Law of Ancient Lights," by J. Fletcher Moulton, Q.C., M.P., F.R.S. [*H.A.*], J. Douglass Mathews [*F.*], and Beresford Pite [*F.*], on 19th March (under the management of the Practice Standing Committee); "Working-Class Dwellings," by John Honeyman, R.S.A., Henry Spalding [*F.*], W. E. Wallis [*A.*], and Owen Fleming [*A.*], on 2nd April; "The Protection of Public Buildings from Lightning," by Killingworth Hedges, M.Inst.C.E., M.I.E.E., on 23rd April. The following paper has also been arranged for: "The Art of the late Professor Cockerell," by J. M. Brydon, *Vice-President*, to be read on the 21st May.

The Committee desire gratefully to acknowledge their indebtedness to the authors of many valuable articles, notes, and reviews contributed to the JOURNAL during the past year, more especially to Professors Baldwin Brown, Gourlay, and Kerr, Dr. A. S. Murray, Messrs. S. Anglin, R. Stephen Ayling, James Barnet (Sydney, N.S.W.), Sydney B. Beale, John Bilson, F. Bligh Bond, Francis Bond, Frank Caws, H. C. D. Chorlton, John Cotton, J. D. Crace, Thomas Drew, W. J. Fletcher, Alexander Graham, Frank Granger, Clement Heaton, John Hebb, E. W. Hudson, J. Humphreys Jones, Sidney Perks, Arthur H. Reid (Cape Town), H. Heathcote Statham, A. E. Street, Lloyd Tayler (Melbourne), Paul Waterhouse, A. Maryon Watson, and E. A. E. Woodrow, and also to express their regret for the loss of two highly esteemed contributors, the late William Simpson, and the late William White.

The Librarian having completed the Catalogue of the Loan Library, by preparing a Supplement carrying on the work down to 31st December 1899, the Committee have arranged that this Supplemental Catalogue shall be printed and bound up with the copies in stock of the original Catalogue, and sold for 6*d.*, as the "Catalogue of the Loan Library with Supplement comprising Additions to December 1899."

The Committee have also had under consideration the desirability of preparing a supplementary catalogue of the Drawings, Prints, and Photographs in the Library which are not included in the General Catalogue.

The Committee desire gratefully to announce the donation made to the Library by Mr. Aubrey Stewart, through Mr. Phenè Spiers, of several books of drawings by the late Professor Willis and the Rev. Canon Stewart.

The Librarian reports to the Committee as follows:—

During the twelve months ending on the 31st March of the present year 164 volumes and 32 pamphlets have been added to the Library of the Royal Institute, exclusive of periodicals, reports, and transactions of Societies, and parts of works issued in serial form.

The number of volumes presented to the Reference Library was 98.

The works purchased comprise 62 volumes, out of which 36 volumes were added to the Loan Library.

The attendances of readers and borrowers during the year numbered 4,971 (in 1898–99, 4,251), the number of works issued on loan being 1,447 (in 1898–99, 1,163), 53 volumes having been issued to Fellows, 209 to Associates, 391 to Students, 597 to Probationers, 196 to Ticket Holders, and 1 to an Honorary Associate.

A table of attendances is herewith appended:—

Date	Day Attendances. 10 a.m. to 5 p.m.					Evening Attendances. 5 p.m. to 8 p.m.					
	Members.		Non-members.			Members.		Non-members.			
	Library.	Periodicals only.	Library.	Periodicals only.	Total.	Library.	Periodicals only.	Library.	Periodicals only.	Total.	Books issued on Loan.
1899.											
April	57	11	96	3	167	29	9	57	6	101	100
May	73	10	204	1	288	47	9	70	5	131	124
June	45	6	129	—	180	35	5	64	2	106	95
July	51	4	74	8	137	15	2	44	1	62	70
August	Reference Library closed.					Reference Library closed.					34
September	50	2	111	6	169	34	—	49	—	83	99
October	77	6	152	12	247	47	6	95	12	160	173
November	84	3	146	5	238	55	8	89	4	156	181
December	76	1	96	6	179	23	8	51	5	87	114
1900.											
January	84	5	135	3	227	41	7	83	7	138	164
February	86	2	110	1	199	49	1	76	3	129	151
March	75	9	113	3	200	39	1	94	6	140	142
TOTAL	758	59	1366	48	2231	414	56	772	51	1293	1447

The number of tickets issued for admission to the Library other than to members of the Institute or to Students and Probationers was 41.

Donations of valuable books have been received during the year from Mr. P. Gordon Smith [*F.*], Mr. G. T. Hine [*F.*], Mr. Andrew Oliver [*A.*], Professor G. Clason [*Hon. Corr. M.*], Mr. E. G. Folcker [*Hon. Corr. M.*], Professor J. Otzen [*Hon. Corr. M.*], the Chevalier Victor de Stuers [*Hon. Corr. M.*], Mr. G. L. Sutcliffe [*A.*], Mr. H. H Statham [*F.*], and Monsieur C. Enlart.

REPORT OF THE PRACTICE STANDING COMMITTEE.

The usual monthly meetings of the Committee have been held.

Mr. J. Douglass Mathews was re-elected Chairman, and Mr. S. Flint Clarkson was elected Vice-Chairman in the place of Mr. Thos. Harris, whose ill-health necessitated his retirement. Mr. J. Osborne Smith [*F.*] and Mr. C. H. Brodie [*A.*] were re-elected Hon. Secretaries.

The Counsel's Opinion on the Liability of Architects under the new Workmen's Compensation Act, referred to in the last Report, was duly obtained in the form of answers to the questions put by the Committee. These were published in full in the JOURNAL of 3rd June

1899, pp. 432–434, and subsequently, as suggested by the Committee, issued as an Institute Paper.

The consideration of the London Government Bill by the Committee—also mentioned in their last Report—resulted in a list of objections to and suggestions for the improvement of the Bill being sent to the Council, with a recommendation that they be communicated to the First Lord of the Treasury, the Clerk to the London County Council, the leading London newspapers, and the professional journals. The Council adopted the recommendation, and the suggestions, &c., were published in the Institute JOURNAL of 15th April 1899, p. 349. The Chairman of the Committee subsequently reported that he knew from conversation with Members of Parliament and others that these suggestions carried considerable weight and were highly approved.

The Committee undertook the arrangements for the General Meeting of 19th March 1900, when important Papers on "Ancient Lights" were read by Mr. J. Fletcher Moulton [*H.A.*], Q.C., M.P., F.R.S., and two members of the Committee (Messrs. J. Douglass Mathews [*F.*] and Beresford Pite [*F.*]). The Papers occupied the whole evening, and the discussion was adjourned to a special meeting held on 9th April, at which a resolution, moved by one of the Hon. Secretaries of the Committee, urging the necessity for reform in the Law of Ancient Lights, was carried.

Questions sent by members of the Institute seeking advice on the subject of professional charges, the stamping of Awards, Architect carrying out work without the intervention of a contractor, Ancient Lights, Variations as affecting a Building Contract, Discharge of Clerk of Works, Power of Local Authorities to take land without adequate compensation, &c. &c., were considered, and reports thereon sent to the Council.

The Institute Form of Party-Wall notice was amended at the suggestion of the Committee.

The publishers of *Whitaker's Almanac*, acting on the unofficial communications of an Hon. Secretary of the Committee, have corrected and amplified their paragraph concerning Architects' Charges, so that it is now in accord with the revised Institute Schedule. They also, for the first time, now publish, under the heading of "Professional Education," a list of the chief centres of Architectural Education, and a reference to the Institute Examinations.

The Committee have, with the Council's approval, undertaken the consideration of the revision of the Institute Pamphlet on "Dilapidations." This will probably involve the writing of an entirely new pamphlet, the synopsis for which is now under consideration. Any suggestions by members of the Institute will be welcomed by the Committee.

The Committee have also in hand the preparation of a short Schedule indicating the usual practice as to the payment and amount of fees in party-wall cases.

REPORT OF THE SCIENCE STANDING COMMITTEE.

The Science Standing Committee report that they have held ten meetings since the publication of the last Annual Report, with an average attendance of 8.

Mr. W. C. Street was appointed Chairman; Mr. Lewis Angell, Vice-Chairman; and Mr. H. D. Searles-Wood and Mr. Max Clarke, Hon. Secretaries.

The Committee are preparing for publication the Results of the Experiments for ascertaining the strength of different kinds of brickwork.

The Committee have not been able to complete the arrangement for acquiring a standard size for bricks, but hope to be able to do so shortly.

The Committee have undertaken an inquiry into the Supporting Power of Rocks and Soils, and hope to report the results in the course of next session.

FINANCES.

The accounts of Ordinary Funds for 1899, prepared by Messrs. Saffery, Sons, & Co., chartered accountants, and audited by Mr. Zeph. King [*F.*] and Mr. F. W. Marks [*A.*], the Hon. Auditors appointed at the Annual General Meeting of 1899, here follow:—

Income and Expenditure Account of Ordinary Funds for the Year ending 31*st December* 1899.

Dr. Exclusive of Entrance Fees and Final Examination Fees; and Subscriptions received in advance for 1900. **Cr.**

EXPENDITURE.	£	s.	d.	£	s.	d.
To Ordinary Expenditure—						
Rent	935	0	0			
Gas and Electric Lighting	88	10	6			
Coals	22	10	0			
				1046	0	6
Salaries				1395	6	8
General Printing, Stationery, Stamps, and Petty Expenses				519	15	10
Expenses of General Meetings, Exhibitions, &c.				179	8	1
Housekeeping (including Office Attendant)				143	18	11
Advertisements in Newspapers				30	2	6
Examination Expenses				333	1	4
General Repairs				103	17	7
Fire Insurance				20	4	6
Medals and other Prizes				114	4	0
Grant to Library				100	0	0
Grant to Architectural Association				100	0	0
The Journal—						
Reporting	50	8	0			
Printing and Binding	657	7	11			
Illustrations	168	15	2			
Addressing, Postage, and Carriage	232	3	6			
				1108	14	7
The Kalendar—						
Printing	136	15	6			
Posting and Carriage	26	16	4			
				163	11	10
Contributions to Allied Societies				270	6	0
Miscellaneous Expenses—						
Garnier Memorial	10	0	0			
Accountants' and Legal Expenses	41	18	3			
Penrose Portrait (photos)	5	18	0			
Sundries	4	18	0			
				62	14	3
Annual Dinner				68	17	5
Balance of income over expenditure				1127	4	1
				£6887	8	1

Saffery, Sons, & Co.,
Chartered Accountants.

INCOME.	£	s.	d.	£	s.	d.
By Ordinary Income—						
Subscriptions—						
582 Fellows at £4. 4*s.*	2444	8	0			
Ditto, Arrears	71	8	0			
929 Associates at £2. 2*s.*	1950	18	0			
3 paid on account	1	13	6			
Ditto, Reinstated	16	16	0			
Ditto, Arrears	73	10	0			
42 Hon. Associates	88	4	0			
Ditto, Arrears	2	2	0			
				4648	19	6
Dividends on Stocks and Shares—						
Architectural Union Co.	157	16	0			
Consols	52	6	9			
Tasmanian Government Stock	40	11	2			
Interest on Deposit	24	7	11			
				275	1	10
Sale of Publications (other than Journal and Kalendar)				219	16	1
Use of Rooms—						
District Surveyors' Association	25	0	0			
Architectural Association	7	0	0			
R.I.B.A. Tenants	55	0	0			
				87	0	0
Examination Fees—						
Statutory	27	6	0			
Preliminary	617	8	0			
Intermediate	260	8	0			
Final	87	3	0			
				992	5	0
Journal and Kalendar—						
Advertisements	530	0	0			
Sales	134	5	8			
				664	5	8
				£6387	8	1

Examined with the several vouchers and found to be correct. 20*th March* 1900. (Signed) { Zeph. King. F. W. Marks.

Balance Sheet of Ordinary Funds, 31*st December* 1899.

Dr. **Cr.**

LIABILITIES.				£	s.	d.	£	s.	d.
To Sundry Creditors outstanding							134	12	6
To Examination Fees anticipatory of election							138	12	0
To Subscriptions for 1900 received in advance							94	10	0
To *Accumulated Fund*									
Surplus of Liquid Assets over Liabilities as per last Balance Sheet				7764	6	3			
Add Entrance Fees received in 1899				186	18	0			
Arrears for 1899 (as per contra)				233	10	6			
				8184	14	9			
Less Arrears included in 1898 account since received or cancelled	£186	18	0						
Fittings bought	9	10	0						
				196	8	0			
				7988	6	9			
Balance of Income over Expenditure in 1899				1127	4	1			
							9115	10	10
							£9483	5	4

Saffery, Sons, & Co.,
Chartered Accountants.

ASSETS.	£	s.	d.	£	s.	d.
By Cash at Bank				1288	16	9
By Investments* :—						
Architectural Union Co., 263 Shares	3643	1	0			
Consols 2¾ per Cent. £2000	2037	17	5			
Tasmanian Government 3½ per Cent. Stock £1896 8*s.* 9*d.*	2050	0	0			
				7730	18	5
By Debtors				127	1	8
By Subscriptions in Arrear 1897–98	102	18	0			
Ditto 1899	233	10	6			
				336	8	6
				£9483	5	4

	£	s.	d.
* *Total of Investments in* 1898	6230	18	5
Additions in 1899, *viz.*—			
£1395. 6*s.* 3½ *per Cent. Tasmanian Stock at* 107¼	1500	0	0
Total Investments as above	7730	18	5

Examined with the several vouchers and found to be correct. 20*th March* 1900. (Signed) { Zeph. King. F. W. Marks.

The Revenue Account and Balance Sheet of Trust Funds for the year 1899, audited by Mr. Zeph. King [*F.*] and Mr. F. W. Marks [*A.*], here follow:—

Revenue Account of Trust Funds for the Year ended 31st December 1899.

Dr.	£	s.	d.	Cr.	£	s.	d.
ASHPITEL PRIZE FUND:—							
To Cash paid to 3 Students (Ashpitel Prize not awarded)	15	15	0	By Balance from last Account	22	7	0
To Balance carried forward	18	12	0	By Dividend on 20 Shares, Architectural Union Co., at 12*s.* per share	12	0	0
	34	7	0		34	7	0
CHARITABLE FUND:—							
To Cash paid Architects' Benevolent Society	5	5	0	By Balance from last Account	1	0	0
To Balance carried forward	1	1	8	By Dividends on £200 10*s.* 2¾ per Cent. Consols	5	6	8
	6	6	8		6	6	8
DONALDSON TESTIMONIAL FUND:—							
To Cost of Medals	2	15	0	By Balance from last Account	0	10	6
To Balance carried forward	0	11	0	By Dividends on £72 L. & N.W. Railway 4 per Cent. Preference Stock	2	15	6
	3	6	0		3	6	0
GODWIN BURSARY:—							
To Cash paid Bursar 1899, 1st instalment [E. W. Wonnacott]	20	0	0	By Balance from last Account	31	12	11
To Balance carried forward	51	9	5	By Dividends on £1030 Caledonian Railway 4 per Cent. Debenture Stock	39	16	6
	71	9	5		71	9	5
GRISSELL LEGACY:—							
To Cost of Medal	9	18	0	By Balance from last Account	4	12	0
To Balance carried forward	10	9	4	By Dividends on £300 Great Indian Peninsula Railway 5 per Cent. Stock	15	15	4
	20	7	4		20	7	4
LIBRARY FUND:—							
To Purchase of Books, Binding, &c.	139	16	7	By Balance from last Account	60	12	7
To Printing, Stationery, &c.	9	9	0	By Annual Donation from Mr. Sydney Smirke	5	0	0
To Petty Expenses	2	1	3	By Annual Grant from Ordinary Funds	100	0	0
To Balance carried forward	20	8	3	By Donation from Mr. W. Henry White	2	2	0
				By Entrance Donation of one Hon. Associate	2	2	0
				By Fines (Loan Collection)	1	18	6
	171	15	1		171	15	1
OWEN JONES STUDENTSHIP:—							
To Cash paid Student 1897 [A. E. Henderson], supplemental grant	50	0	0	By Balance from last Account	132	13	2
To Balance carried forward	187	5	0	By Dividends on £2128 Midland Railway 2½ per Cent. Debenture Stock	51	8	6
				By Dividends on £1100 Great Western Railway 5 per Cent. Consolidated Stock	53	3	4
	237	5	0		237	5	0
PUGIN MEMORIAL FUND:—							
To Cash paid Student 1898 [C. de Gruchy]	40	0	0	By Balance from last Account	7	1	4
To Cost of Medal	1	9	6	By Dividends on £1070 L. & N.W. Railway 4 per Cent. Preference Stock	41	7	6
To Balance carried forward	6	19	4				
	48	8	10		48	8	10
TITE LEGACY FUND:—							
To Cash paid Prizeman 1899 [J. B. Fulton]	30	0	0	By Balance from last Account	6	17	2
To Balance carried forward	7	8	6	By Dividends on £1150 2¾ per Cent. Consols	30	11	4
	37	8	6		37	8	6
TRAVELLING FUND:—							
To purchase of £50 Madras Railway 4½ per cent. Stock at 146½	74	2	4	By Balance from last Account	42	14	5
To Balance carried forward	7	18	8	By Dividend on £870 Madras Railway 4½ per Cent. Stock	19	6	5
				By Dividend on £920 „ „ „ „	20	0	2
	82	1	0		82	1	0

Examined with the several vouchers and found to be correct 20*th March* 1900. (Signed) { ZEPH. KING. F. W. MARKS.

Balance Sheet of Trust Funds, 31st December 1899.

Dr.	£	s.	d.	£	s.	d.
To Ashpitel Prize Fund:—						
Capital—20 Shares in the Architectural Union Company, Limited, at £14 per Share				280	0	0
Balance at credit of Revenue Account				18	12	0
To Charitable Fund:						
Capital—£200 10*s.* 2¾ per Cent. Consols				195	14	9
Balance at credit of Revenue Account				1	1	8
To Donaldson Testimonial Fund:—						
Capital—£72 L. & N.W. Railway 4 per Cent. Preference Stock				89	0	0
Balance at credit of Revenue Account				0	11	0
To Godwin Bursary:—						
Capital—£1030 Caledonian Railway 4 per Cent. Debenture Stock				1344	13	6
Balance at credit of Revenue Account				51	9	5
To Grissell Legacy Fund:—						
Capital—£300 Great Indian Peninsula Railway 5 per Cent. Guaranteed Stock				513	14	10
Balance at credit of Revenue Account				10	9	4
To Library Fund:						
Balance at credit of Revenue Account				20	8	3
To Owen Jones Studentship:						
Capital—£2128 Midland Railway 2½ per Cent. Debenture Stock	1773	0	0			
£1100 Great Western Railway 5 per Cent. Consolidated Stock	1900	12	0			
Balance at credit of Revenue Account	187	5	0			
				3860	17	0
To Pugin Memorial Fund:						
Capital—£1070 L. & N.W. Railway 4 per Cent. Preference Stock				1342	12	6
Balance at credit of Revenue Account				6	19	4
To Tite Legacy Fund:—						
Capital—£1150 2¾ per Cent. Consols				1109	1	6
Balance at credit of Revenue Account				7	8	6
To Travelling Fund:—						
Capital—£920 Madras Railway 4½ per Cent. Stock				1229	13	4
Balance at credit of Revenue Account				7	18	8
				£10090	5	7

Cr.	£	s.	d.
By Government and other Securities for total value of Trust Funds invested	9778	2	5
By Cash in hands of Bankers	312	3	2
	£10090	5	7

Examined with the several vouchers and found to be correct. *20th March* 1900. (Signed) Zeph. King. / F. W. Marks.

SCHEDULE OF PROPERTY.

	£	s.	d.	£	s.	d.
Furniture as per last year's Schedule	2614	19	8			
Additions in 1899	9	10	0			
	2624	9	8			
Less Depreciation	65	12	3			
				2558	17	5
Printed Books				4000	0	0
Oil Paintings				1800	0	0
Lithographs, Prints, &c.				400	0	0
Water-colours				600	0	0
Models, Plaster Busts, &c.				140	0	0
Marble Busts				150	0	0
				£9648	17	5

In conclusion, the Council submit an Estimate of Income and Expenditure of Ordinary Funds for the twelve months of 1900, exclusive of Entrance and Final Examination Fees:—

Estimate of Income and Expenditure for Year ending 31st December 1900.

EXPENDITURE.	£	s.	d.
Rent, Lighting, and Warming	1060	0	0
Salaries	1512	0	0
General Printing, Stationery, Postage, and Petty Expenses	460	0	0
General Meetings, Exhibitions, &c.	235	0	0
Housekeeping (including Office Attendant)	145	0	0
Advertisements	50	0	0
Examination Expenses	350	0	0
General Repairs	50	0	0
Fire Insurance	20	0	0
Medals and other Prizes	215	0	0
Grant to Library	100	0	0
Grant to Architectural Association	100	0	0
The Journal	1080	0	0
The Kalendar	165	0	0
Contributions to Allied Societies	275	0	0
Miscellaneous Expenses (including Conference, Conversazione, and Dinner)	300	0	0
Legal and Accountants' Charges	60	0	0
Estimated Balance of Income over Expenditure	800	0	0
	£6977	0	0

INCOME.	£	s.	d.
Subscriptions and Arrears	4700	0	0
Dividends on Stocks and Shares and Interest on Deposit Account	300	0	0
Sale of Publications (other than Journal and Kalendar)	245	0	0
Journal and Kalendar—			
Sales	100	0	0
Advertisements	530	0	0
Use of Rooms	87	0	0
Examination Fees—			
Statutory	25	0	0
Preliminary	635	0	0
Intermediate	275	0	0
Final (Extra Fees)	80	0	0
	£6977	0	0

ORNAMENTAL LEAD AND LEAD-CASTING.

By F. W. Troup [*F.*].

[*Read before the Birmingham Architectural Association, 9th February* 1900.]

FOR the past five or six years I have devoted some time to the study of the methods of using and working in lead, being attracted in the first instance to the workshop processes, and thence naturally to its present and historical use on buildings. I have given my attention more to the ornamental side of its employment than to the practical. "Practical" here you must take in a restricted sense, as applying to water and sanitary works—in fact, to what by far the greater part of the teaching in the plumbers' classes of technical schools is devoted. From "ornamental," on the other hand, I do not mean roofing and roof-work in lead to be excluded, nor do I mean to regard the craft solely from the æsthetic point of view. I have simply used the term "ornamental" in a somewhat loose sense to describe what architects usually know as "external plumber work."

In this division of the craft I take no new departure, for even in the Middle Ages, as Mr. Lethaby points out in a paper read before the Society of Arts, "*water-leaders* seem to have been separate from plumbers, as we find both mentioned in the York crafts who took part in the mystery plays." I think we might almost say that at the present day all our plumber work is carried out by those scientific artizans, direct descendants and representatives of the mediæval *water-leaders*.

So completely has the ornamental working of lead been allowed to lapse into pure utilitarianism that in trying to pick up methods and processes I have found tradition of but little value, and have been for the most part thrown back on records, and these often incomplete and leaving much room for experiment and practice to make the methods successful or even workable.

These records and earlier collections, however, are extremely interesting in themselves, and have become more so as further light is thrown on them by experimental knowledge. I propose, therefore, to give some extracts from Burges and translations from Viollet-le-Duc and another old French book on building written by Félibien and printed in Paris in 1690.*

In the paper above referred to Mr. Lethaby says, "The quantity of lead-work made use of in the Middle Ages in England was enormous; there seems to have been nothing like lead;" and he then goes on to describe how lavish was its use in spires, turrets, finials, and various other positions on buildings. Notwithstanding this the most numerous and the finest examples of ancient ornamental lead work are to be found in France. Reference will be made to these later on; meantime let us see what Burges, writing in 1856, has to say on our subject:—

"I can only pretend to put before you a very short notice of the various objects which our forefathers produced in lead and tin—beginning with those belonging to the Church—the great art patroness of the Middle Ages.

Roofs.—"Let us imagine the architect had got up the carpentry of his roof, and then proceed to ascertain how he went to work to cover it; and here it may be premised that his roof is a very different one from those designed by the late ingenious Mr. Peter Nicholson. However, the only points of difference with which we have to do at present are, first of all, that there is no ridge board, the rafters meeting one another at top, whilst they are kept in a straight line by means of a ridge beam below; the second point of difference is that the king posts stand up above the roof for a considerable distance.

"In the thirteenth and early part of the fourteenth century, however, when continuous ridges were used, composed of isolated members, as at Amiens or Exeter, the ends of all the king posts, except that over the apse, were cut off, as they would not be wanted for the support of the ridge.

Ridges.—"Now the architect, in those days as in these, had the choice of tiles, slates, or lead to cover his roof with; but then, as now, the latter was by far the most costly and the more esteemed. Still, even tiles and slates under his hands became beautiful. The tiles were coloured with variously coloured enamels, as at Mantes, while the slates had their edges cut into divers shapes, and were disposed in patterns according to their tints. When lead was used it was generally very *thick*. That at Canterbury, I am told by Mr. Austin, runs about 12 lb. to the foot. The roof being boarded, the lead was laid on much in the same manner as at the present day, except that the sheets were somewhat narrower (about 2 ft. in between the rolls), and that these latter were formed by turning over the sides of the sheets, without the assistance of the wooden rolls used by the modern plumber. If there was no ridge the rolls were continued *over the top of the roof* and a little way down the opposite side, so as to allow the sheets to hang well on.[*] If, however, there was a ridge the method was rather different. And here it may be observed that, during the Middle Ages, everything susceptible of having a ridge applied to it had one. This was the case even with the miniature enamelled Limoges coffers, and still more so with regard to the large silver reliquary shrines, some of the crestings of which are most beautiful, though of course treated according to the different nature of the material employed. The tiled roofs had tile crestings, several of which have been discovered at Great Malvern, but the slate roofs were treated in a similar manner to the lead ones, to which latter we now return. We have hitherto supposed the roof to be boarded and covered with lead, with the rolls continued over the apex. Now, as these rolls would interfere with the ridge, they must be suppressed, and accordingly the sheets of lead are made to finish at some little distance (one foot or more) from the top of the roof, where they are turned in and nailed to the under side of the boarding. The apex was not generally covered by two boards butting up against each other; on the contrary, it was thought better to cut a sort of trough out of the solid, and to apply it reversed to the top of the rafters, so as to form a solid foundation for the ridge. Irons in the form of an inverted Y were nailed to this inverted trough at proper intervals, and then the piece of lead forming the ridge piece, having had corresponding holes cut in the middle, was slipped over them. The next thing was to cast the various members of the cresting, to solder them together (for they could only be cast in *halves* [†]), to slip them over the projecting irons, and lastly to solder their lower extremities to the leaden ridge piece. When nails were used the heads were covered with a square piece of lead soldered at one end; and as this solder extends some way down, and is marked with the iron, at a little distance, the whole looks like a coat of arms with a chef.

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* The Institute Library has two editions of Félibien, the earlier one dating 1676, the later (3rd) 1690.

"Amiens affords an excellent example of the very simplest form of ridge [see fig. 7, I.]. Unfortunately there is nothing to tell the date by, as the *fleurs de lis* have been mutilated on one of those occasions when the French nation, wearied with kings, expelled the dynasty and defaced its badges. Most probably it is a sixteenth-century restoration of the thirteenth-century ridge; for the spire was burnt down, and with it part of the roof, in 1527, and when restored, shortly after, a very different form of ridge was in vogue. At Rheims the principal member of the cresting was two feet high and one foot six inches wide (French measure); that at Exeter is about one foot high by ten inches wide. I am afraid that even the oldest part of the Exeter ridge must be considered as a sixteenth-century restoration of an earlier one. Mr. Cornish, who conducts the works of this cathedral, has presented one of the ornaments to the Architectural Museum, where it is now to be seen; it is very badly cast, and ill-adapted for its position, as the upper part is heavier than the lower.

"I must now go for authorities to the work of M. de la Querrière, who has given me several specimens of ridges, but, unfortunately, has said nothing about their construction, which, however, was all upon the same principle; and we now see why the king-posts are carried up, for to them is nailed at some distance above the apex of the roof a bar of iron loosely covered with lead. The ridge, which is always of an open and delicate pattern, is cast in two halves as usual (except when it is very light and open), is then soldered at bottom to the ridge piece, and at the top to the lead pipe covering the iron bar.

"Where slates were used another decoration to the ridge piece was the application of long-pointed strips of lead alternately pointed and curved. These were cast and soldered on to its lower extremity; they occur at the Château Meillant, Seine Inférieure, at the house of Jacques Cœur and at the Hôtel Cujas, Bourges.

Crockets.[*]—"If they are rather large, each crocket has a thin piece of iron covered with lead (copper will do alone), one end of which is soldered to the lead pipe, and the other to the extremity of the crocket. And while on this subject it may be as well to show how the largest crockets, such as those on the spire at Amiens, which are 1 ft. 6 in. long, are managed. An iron about 1¼ in. square has its end split into two parts, so that it resembles the letter T; the split part is nailed on to a single rafter, and the other, which juts out, is covered with lead; on the upper surface is soldered a piece of very thick lead, to which some of the upper leaves of the crocket are soldered; the end leaves next the rafter and the stalk are, of course, fixed to the lead covering of the spire, as usual. Another way of treating the medium crockets was to make the iron in the form of an L, fixed in a similar manner; the projecting part, covered with lead, as usual, is soldered to the inside of the back of the crocket, in the body of which two holes are bored to let out the wet. The crockets running up the sides of the dormers are usually executed in this manner."

I will presently give Viollet-le-Duc's description of the same construction. Probably Burges' paper was written before Viollet-le-Duc's article, but in any case Burges' remarks and descriptions are all first-hand, as he made a most thorough study of Amiens. To return to Burges:—

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[*] This can be seen on many examples of old lead roofs, such as the towers of the Oxford colleges often have, and this even when the pitch was very flat.

[†] That is, in open moulds, the simplest of casting methods.

[*] See fig. 7, which shows some of the crockets, &c., described by Burges.

Figures.—" A very favourite finish for a roof, especially at the east end, was a figure of the patron saint, beaten out in lead. The following extract, given by M. de Laborde, from the accounts of St. Maclou, Rouen, gives us some information upon the subject, as well as the names of the artists: '1514. To John Pothyn, sculptor, for having carved a prophet in walnut wood, to serve as a mould and pattern for the works in lead.' All, then, the plumber had to do was to hammer sheets of lead over the wood statue until they fitted to the shape. These were then cut off, and soldered together again with an iron framework inside, to prevent the figure from getting out of shape, and as a means of securely fixing the whole affair." [Notice that everywhere the framework for lead must be prepared, whether of wood or iron, to do the constructional work—lead being mainly a covering and protecting material.]

Ancient and Modern Methods.—" There is one difference between the ancient and modern leaden figures which, I think, deserves to be noticed. The latter are soldered together like a modern work in bronze, *i.e.* the whole of the surface is homogeneous. Now, as far as I could ascertain by reference to the figures on the spire at Amiens, the former (*i.e.* the ancient ones), although soldered in parts, are, nevertheless, in two or three pieces, the joint probably being made by means of a lap, as in roofs, and the places of junction concealed by means of the folds of the drapery—in fact, in a similar manner to the ancient bronze statues at Herculaneum.

" The same method was carried out in detached pieces of carpentry covered with lead, such as pinnacles, where one (if not two) of the edges is made to lap, never by solder. It would appear to have been a principle to lay the lead as loose as possible, and to be very sparing in the employment of solder. It still remains to be proved which is the better of these two ways of constructing figures in lead. That of the moderns is certainly the strongest. The only fear would be the chance of it cracking for want of the necessary play for expansion.

" The flèche of Amiens is truly a *chef-d'œuvre*, whether we consider it with regard to its carpentry or its lead-work. Among the many beautiful wooden spires still left us in France this is beyond all comparison the best. Every decoration possible to lavish upon it in the way of lead-work has been bestowed, and that with no sparing hand. Statuary, foliage, gilding, tinning, painting, all are there, and well did it deserve its title of the golden steeple.

Colouring Lead Work.—" The architect having thus finished his roof, which, we may observe, was an affair calculated to last for four or five centuries, not simply ninety-nine years, neither more nor less, he thought that, as so much pains and expense had been taken to make it strong and beautiful, it was worth while to go a little further, and give it all the advantages of colour.

" How was this to be carried out? Direct polychromy could only be used in the more protected parts; and oil gilding, although in some situations very effective, hardly contrasts sufficiently with the lead to make it desirable to employ it in large quantities, to say nothing of the excessive expense.

Tinning.—" The problem was solved by the use of tin, whose imperishable brilliancy contrasted well with the dulness of the oxidised lead, and which, being applied by fire, became part and parcel of the latter metal, and could neither be washed off by the rain, like the gilding, nor cracked by the sun, like the oil painting.

" The process of tinning is thus performed: The lead being first of all covered with a tolerably thick coating of lamp-black and size, and the pattern traced with a point, all that part of the surface to be tinned is removed with a shave-hook, so as to leave it clean and bright; a little sweet oil is then rubbed over, and the solder applied and thinly spread with a copper bit in the usual manner.

" The next thing, of course, was to fix the lead in the position it was designed to occupy; for the tinning was done in the workshops, although occasionally it was performed when the lead had been up many years. Thus the spire of Notre-Dame at Châlons-sur-Marne was probably constructed in the fourteenth century, but we must refer the tinning to at least a century later. In this case the process was the same, only much more tedious, as the workman was only able to apply so much tin as the end of his axebit would take up; and accordingly we find the work in the instance under consideration very coarse and rough, contrasting strongly with that on the dormer window at the east end of the same church. All the lead work of the roof was more or less susceptible of this decoration, but it was generally confined to the more ornate parts, such as the bases of the girouettes and the dormer windows, but more especially to the ridge pieces, which latter contrasted well with the long dark body of the roof, which was left plain. Almost all the principal mediæval edifices of France present more or less of this decoration; but I am not aware that any traces of it are to be found in England, although M. Durand, who executes the lead-work for the Sainte Chapelle, informed me that he had heard of some existing in England—he thought at Shrewsbury." [On the well-known heads and pipes in Abbot's Hospital, Guildford, I have found very distinct traces of all the pipe ears having been decorated with tinning. So clear are they even through a coat of paint that I have sketched the outlines of many of them.]

"It has before been observed that the recessed pediments of the dormers, their sides, when protected by eaves, and other sheltered situations received polychromatic decorations. The colours were not applied directly upon the lead, but upon a tinned surface, the lines alone being left to oxidise. The oil colours used upon the tinning were transparent, so that they might receive the full benefit of the brilliancy underneath; these paintings were easy to restore, for their outline was unalterable. I should imagine the subject on the cheek of the dormer at Châlons-sur-Marne to have originally been coloured, although only the tinning and a few traces of the mordant of the gilding remain. At present the only perfect specimen of polychromatic decoration upon lead I can refer to is on the inside of the second stage of the Amiens flèche."

Burges has a great deal more to say about the decoration of roofs, especially about girouettes or vanes, of which he seems to have made a special study (they were usually of copper), and also about other uses of lead, such as window-leads, fonts, coffins, and even including pewter vessels, all of which we must skip meantime and take Viollet-le-Duc's remarks, which will be found to agree in many respects with those of Burges. Afterwards we will examine shortly M. Félibien on the old methods of working and casting lead.

Viollet-le-Duc.

"*Plumber work* fills an important *rôle* in the architecture of the Middle Ages. It is also a tradition from antiquity, and there are few Roman remains where excavation does not reveal the *débris* of lead sheets used for lining gutters or even for covering roofs. Under the Merovingian kings whole buildings, such as churches and palaces, were covered with lead. The industry of plumber work thus rises in the two first centuries of the Middle Ages, and continues without decline till the date of the Renaissance.

"It should be remarked that the industry presents in practice serious difficulties which ought to be explained to the student before dealing with the various means which have to be adopted to overcome them. Lead, as everyone knows, is a very heavy metal, very malleable, soft, and lending itself perfectly to being beaten; but for this very reason, that it is malleable and heavy, it has always a tendency to drag or tear away the attachments which hold it to the outline of the wood it is destined to cover. The aim of the plumber then must be to support the sheets of lead which he employs by some means sufficiently complete to resist the drag caused by their great weight. In this particular the old roofs are most judiciously arranged. Lead, moreover, is singularly affected by expansion from heat and by contraction from cold. If the sheets are not left free, if they are attached by any rigid fastening, they will buckle in the sun and tear the attachments on exposure to frost. It is necessary then, first, that, on account of the excessive weight of lead, it should be strongly supported, to prevent its dragging; secondly, that it should yet be left free to expand and contract, following the changes of temperature. Besides these, other difficulties occur in the use of lead for roof coverings. In former times lead cast on sand, in sheets of some thickness, was employed exclusively; this method has the advantage of leaving to the metal its natural crystalline structure, and obvious defects are not obliterated, but it has the drawback of giving a varying thickness to the sheets, so that expansion acts unequally, or the weight is not uniform. Milled lead, which is usually employed in the present day, is perfectly uniform in thickness; but the rolling obliterates, for the time being, cracks or defects, and these, under the action of the atmosphere, soon show themselves, and result in leaks in the roof. Milled lead, moreover, is subject to 'pin-pricks,' which do not usually occur in cast lead. These perforations are made by insects, which bore the lead through and through, forming so many holes about a millimeter diameter, through which the rain water finds its way. We have never had occasion to condemn old cast lead for this kind of perforation, whilst they are not at all uncommon in milled lead. We must leave to experts the cause of this singular phenomenon. Another trouble arises with the employment of lead to cover woodwork. In former times the timber employed in framework and scantlings had long soaked in water and got perfectly cleared of all sap; in the present day logs (of oak) are often badly seasoned or not seasoned at all, with the result that they contain a considerable quantity of pyroligneous acid (particularly wood from Burgundy), which forms an oxide of lead (white lead) when the metal is allowed to remain in contact with it. The oxidation of lead is so rapid in this case that some weeks after the metal has been placed on the wood it is reduced to a state of white lead and completely eaten through. We have seen roofs laid under these conditions which have had to be restored repeatedly within a short space of time, until ultimately the lead had absorbed all the acid contained in the fibres of the wood. Coats of paint or resin even do not suffice to prevent its oxidation, such is the avidity of the lead for the acid contained in the oak. Mediæval builders did not have to provide for this chemical action, since their timber was never put on their works until thoroughly purged of its sap, and their roof coverings present no trace of white lead when the sheets are lifted. Mediæval lead contained a considerable quantity of silver and arsenic; modern lead, perfectly pure, has none of that quality, which resulted in a kind of natural alloy, and the modern may for this reason be more subject to perforation and oxidation. We had the good fortune to see *in situ* in 1835, before the burning of the roof of Chartres, the leads which formed the roof dating from the thirteenth century. Those leads were absolutely sound, cast in sheets $\frac{1}{6}$ of an inch in thickness (10-lb. lead), covered by time on the surface with a brown patina, hard, wrinkled, and brilliant in the sun. They were laid on wood scantlings and the sheets were not more than 2 feet wide. They were about 8 feet long, nailed at the top to the wood scantlings, with large-headed tinned iron nails. The lateral edges of each sheet were rolled up with those of the neighbouring sheets in such a way as to form a roll of about $1\frac{1}{2}$ inch diameter; their lower edge was held by two iron clamps, so as to prevent the wind from raising them. A drawing of that lead work is shown in fig. 1.

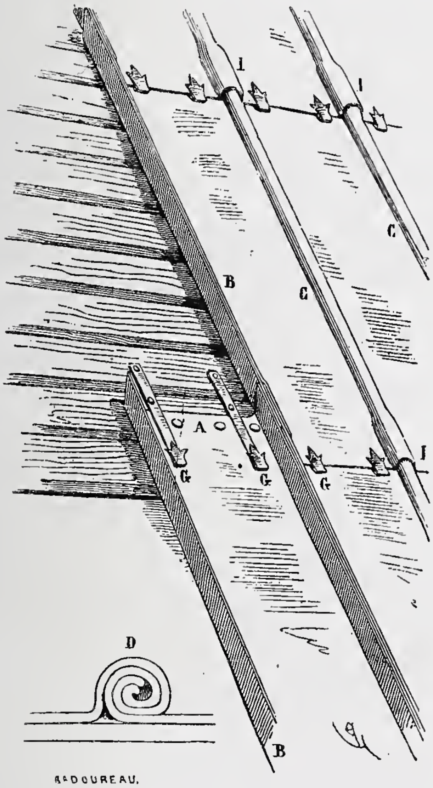
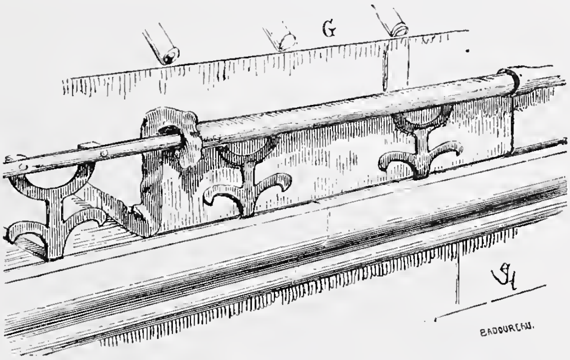
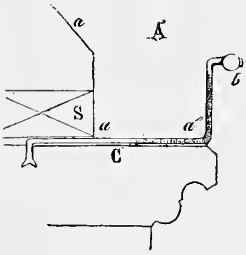


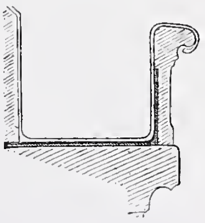
FIG. 1.

"Thus the sheets were invariably fixed at the head as shown at A; their edges, turned up at right angles to their plane, as shown at B, were rolled up with each other and securely held at the sides by the rolls C. These welted rolls were not so far clinched as to hinder in any way the expansion and contraction of each sheet. The lower edge of the sheet was held by the cramps G, of which the tail was nailed to the scantling. At the end, where each sheet laps, the seam is double, somewhat enlarged, and forms a swelling I. At D is given a section at large of a welt roll. This is taken from the roof of the church of Notre Dame in Châlons-sur-Marne, a roof which dates in its oldest parts from the end of the thirteenth century. There the sheets of lead were engraved with lines filled with black matter, forming designs of figures and ornaments; some traces of that decoration can still be seen. Painting and gilding enhanced the flat spaces between those black lines, for we must observe that almost all lead work in the Middle Ages was decorated with paintings applied to the metal by means of very energetic mordant. Lead gutters in the Middle Ages were also laid free to expand, with drips in place of soldered joints. The outer edge is not always fastened, as is the practice to-day, to an oak joist, but rests on horizontal iron bars, held up at close intervals by upright forged stems. At A, fig. 2, is shown the profile of one of those braces, and at G its face is seen on the top of the cornice. The uprights are cemented into the tail of the cornice stones under the wall plate of the roof. The stems are riveted on to the rod. The lead of the gutter, fixed at *a*, follows the contour *a′ a″*, and is turned over at *b*, leaving visible outside the iron uprights which support it. The lead for gutters is of great thickness and the sheets seldom exceed 4 feet in length. They are joined by seams, as is shown in the perspective drawing G. At each seam at the bottom of the gutter is formed a drip, to prevent the water passing between the joints of the sheets or being stopped by the projection of the seams. In addition to this the gargoyles for





F . 2.



discharge are always very close together, every other sheet or so. The builders of the Middle Ages had probably noticed that wood entirely enclosed in sheet lead, to the exclusion of air, rapidly becomes heated and is reduced to powder. If they made a wooden gutter for a house they would leave exposed the outside face of the gutter, covering it only with some projection, as shown in fig. 3, to protect it from the direct action of the rain. The faces of wooden gutters are usually moulded, sometimes even carved and covered with painting. If the mediæval plumbers gave scrupulous attention to the perfect workmanship in their roofs, they even excelled this in covering wood work with wrought lead, in beating lead with the mallet, and making that industry one of the principal means of adorning the crowning members of a building. Many examples of these works of beaten lead recall the best models of the goldsmiths' work of the period. It is quite plain from its irregularity that even this kind of work was executed without set models; they made them by cutting out the ornaments in sheets of lead of a good thickness, and by giving to those flat outlines a modelling by means of small wooden mallets of different shapes. Of the old ornaments which we have examined with the greatest care we have devoted ourselves to the drawing of this very simple handicraft, which none the less requires the taste of an artist and a thorough knowledge of the development of surfaces. Wishing, for example, to form in beaten lead an ornament of foliage for a pinnacle, such as is shown finished at A, fig. 4, it will be found necessary to take into consideration the development of those surfaces on the flat, trace its contour on a sheet of lead, cut it as shown in fig. 4 *bis*, and give little by little to that outlined flat surface an appropriate modelling. Those leaves (see fig. 4) are connected by hooks and solder to a lead-covered core, shown in section at B taken on the line *a b*. Buckles of lead soldered to the interior of the stem (see the detail C) couple on to the double cramps D, soldered to the core and placed as shown at *d*. Small stems of iron rod *e*, soldered behind in the hollow formed in modelling the stems of the leaves, give to the latter a firm support and finish in a lead flower, as seen at E. The pinnacle here shown being triangular in plan, the development of each of the three leaves should coincide with the angle H B G. Then the three leaves being placed in their hooks, and soldered at the base of the stem from *g* to *h*, the fronds K are twisted in such a way that the tips touch, and a point of solder connects them and gives further support and stiffness to the upper part. In order to cut those sheets with precision and without wasting the lead much experience in the development of surfaces is needful, and a knowledge of the effects which are to be obtained from the modelling up of a flat surface. But no builders have ever given more thought to the modelling of surfaces than the artizans of the Middle Ages. The works which

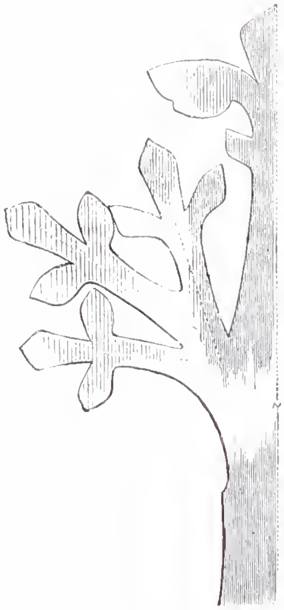


FIG. 4 *bis*.

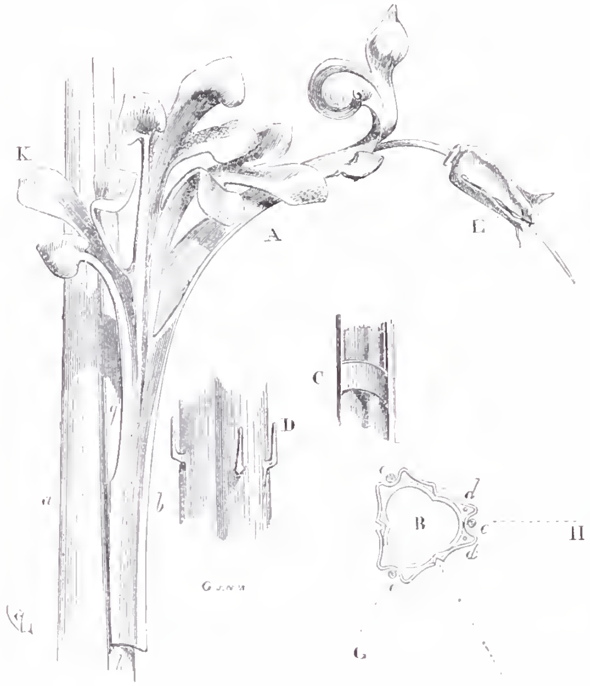


FIG. 4.

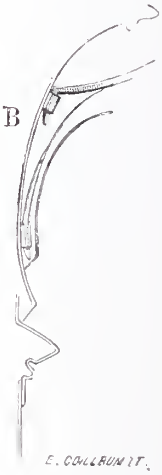


FIG. 5.

seem so difficult to us, who have acquired in no school the experience of those effects, were child's play to them, and an attractive play, for they never lost an opportunity of finding new difficulties to surmount. Economising the solder in this kind of work, they modelled the leaf of metal with a charming taste as one would model clay, and so treated it as to acknowledge the material, simulating neither stone nor wood sculpture. Had they, for example, a capital to make they formed the drum B (fig. 5), then covered it with crockets and partly modelled foliage, soldered and hooked to the central core, as is seen at section B—but all this in a light, living, high relief, suitable to the metal. The drum, it should be noted, was depressed at the centre of its height, and its diameter was less than that of the column under it, so that the group of stems generally might not appear to exceed the thickness of the shaft. Frequently those ornaments were only hooked on to have the less chance of breakages and to facilitate repairs. Small stems of iron soldered to the interior of the leaves or crockets stiffened and prevented them from sagging. In all works of lead we must provide for the question of repairs, and dispose fastenings, hooks, and seams in such a way that it may always be possible to remove easily a deteriorated part and renew it. The expansion of the lead, a defect in a leaf, the blows of the beaks of crows, which occasionally set to work to pierce a sheet, often necessitate the renewal of a piece of lead. Mediæval plumbers had foreseen these accidents, for all their lead is so disposed that it can be removed in sheets or pieces, just as tiles, ridges, or hips in a tile roof can be lifted without damaging the surrounding ones in good condition. If the lead is laid directly on dressed wood, as that on the *roofs* of a dormer or a flèche, the sheets are never solder-jointed, but are united by seams adroitly placed, by drips, and by hooks. A column, for example, will be covered as shown at A (fig. 6); mouldings will be dressed as is seen at B B′. The lead following the contours will gain stiffness by reason of the frequent returns; it will be fixed at the head only, at *b*, which is lapped over by the sheet above, and with cramps, and lapping over in its turn the next sheet beneath. If ornaments have to be applied to those mouldings they will be attached underneath the leaf, as is seen at B′—that is to say, by hooks *c* and the solder tacks *d*.

"If it is a question of covering a *vertical* surface with lead, such as the *cheeks* of a dormer or the *sides* of a flèche, the sheets will be hung obliquely with each other, as is shown at D. Hooks of iron or copper G will support the lower end of the sheet and prevent the wind from lifting it. Straps of lead nailed to the wood will be caught in the rolled welts and prevent the sides from rising. Great decorated hips will be composed of a series of cylinders or prisms, which will each lap over its neighbour without the use of solder. Thus these hips may decay and be taken down and replaced without difficulty. A bar of iron starting out from a fork on the wooden hip will support vertically the individual members. In beaten lead forming decorations solder will be employed only to unite ornaments formed of two reverses, as rings, flowers in full relief, or to attach leaves, stems, or foliage.

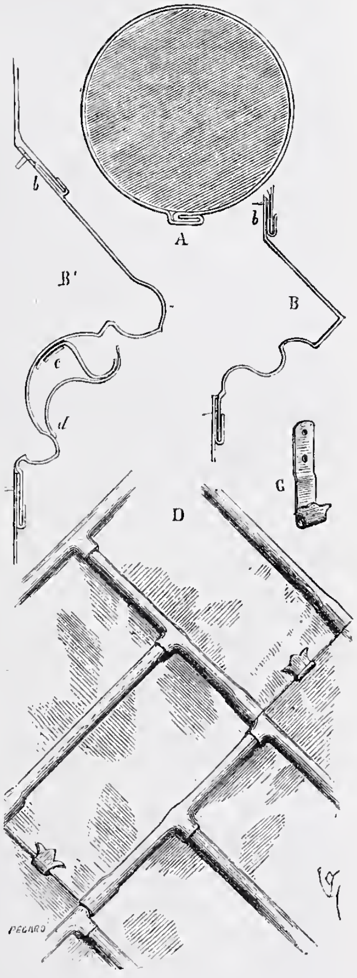


FIG. 6.

"Towards the end of the fifteenth century ornaments made of beaten lead began to be replaced by decoration cast in moulds of stone or plaster. Many of these moulds still exist; some are to be seen in the Hospital at Beaune, which have served to cast ornaments for the pinnacles of the roof. But these ornaments are very small in scale and are far from having the same decorative effect as beaten lead.

"Lead-workers made statues of all sizes, and examples are still to be seen on the roofs of Amiens and Rouen, dating from the beginning of the sixteenth century. Those figures were almost always made up—that is to say, beaten on a core of wood or metal in pieces, afterwards soldered together. They had, of course, to be very careful to keep the model or core very spare and thin, so that the additional thickness of the sheet of lead should increase it to just the right degree.

"Good work in lead was still being done in the sixteenth century, although the means of fixing and jointing it were then receiving less study and attention than during the preceding centuries. The flèche of the Cathedral of Amiens, in part re-covered in the beginning of the sixteenth

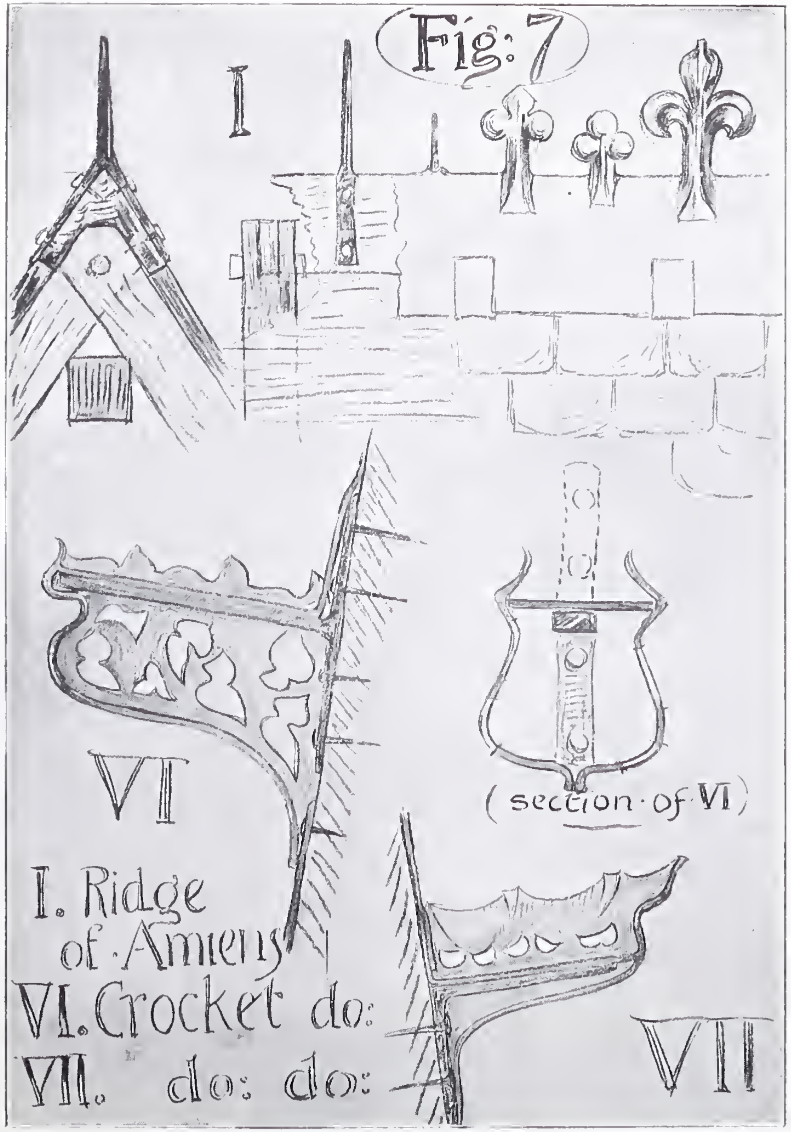


Fig: 7

I
VI
(section·of·VI)
VII
I. Ridge of·Amiens
VI. Crocket do:
VII. do: do:

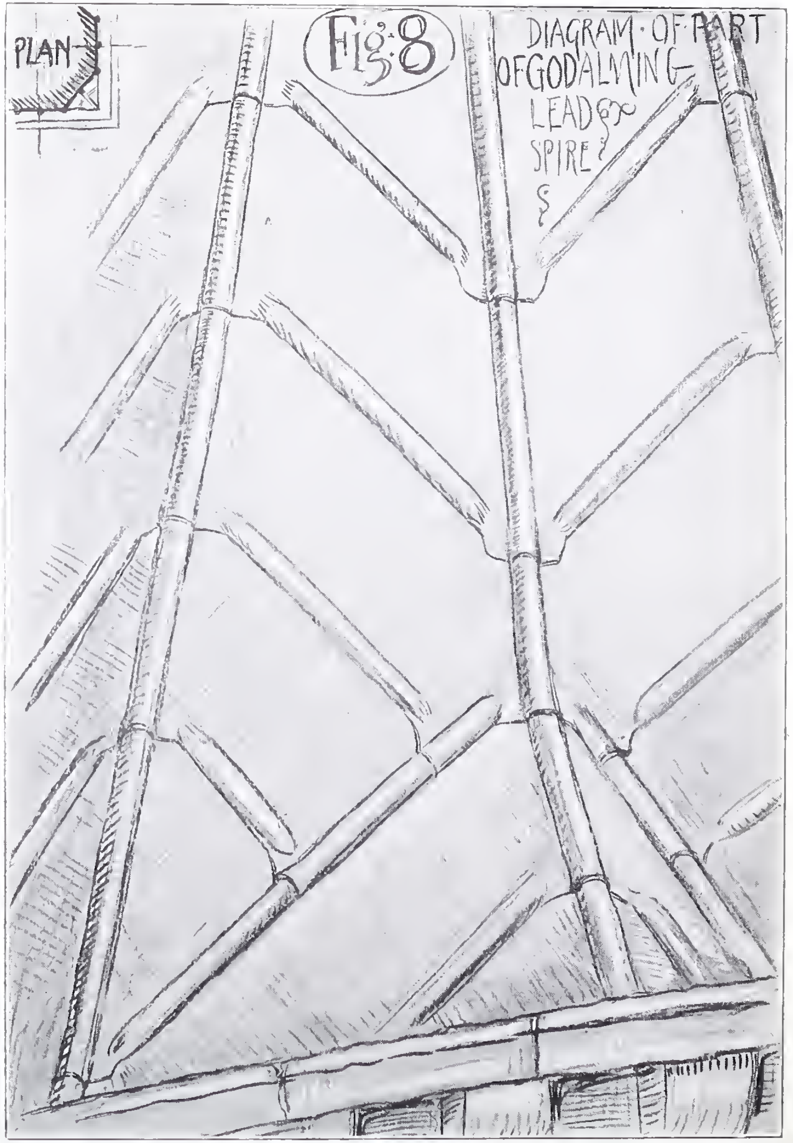


Fig: 8

PLAN
DIAGRAM·OF·PART OF GODALMING LEAD &c SPIRE &c

century, in part repaired in the seventeenth, displays the decadence of that art in the lapse of a century.

"The lead on the Palace of Versailles and on the Dome of the Invalides is distinguished more for its great weight than for the care given to its execution; whilst the lead, unfortunately rare, which remains from the thirteenth, fourteenth, and fifteenth centuries is remarkable for its comparative lightness and for a most careful execution. To convince one it is enough to see the old leads of the Church of Notre Dame in Châlons-sur-Marne, the Cathedral of Reims, that of Amiens, the house of Jacques Cœur, the Hospital at Beaune, the Cathedral of Rouen, that at Evreux, and the numerous fragments dispersed on many monuments and houses."

I may here point out to you an English method of laying lead on a vertical surface. Fig. 8 shows (in diagram) part of Godalming spire. The diagonal rolls there do not intersect, as described by Viollet-le-Duc. Each roll stops short and is rounded off just before reaching the roll it would, if continued, intersect. This gives nearly as good support, greater clearance for water, and involves much less beating, dressing, and straining of the metal than when the rolls intersect completely, as shown in fig. 6.

Workshop Processes.—With regard to the actual casting and manipulation of lead M. Félibien's is the oldest description of the methods which I have come across, though it dates at a period when the art of the plumber had, according to Viollet-le-Duc, very much declined. The workshop processes, however, probably remained constant to the older practice for a longer period than the artistic manipulation and methods of laying and fixing, these latter being more open to the influences of fashion and fancy (or the want of it). At the very date, however, that this book was published in Paris a great controversy was being carried on in this country as to the *then* new invention of milled lead, of which I have some notes that are worth reading in this connection.

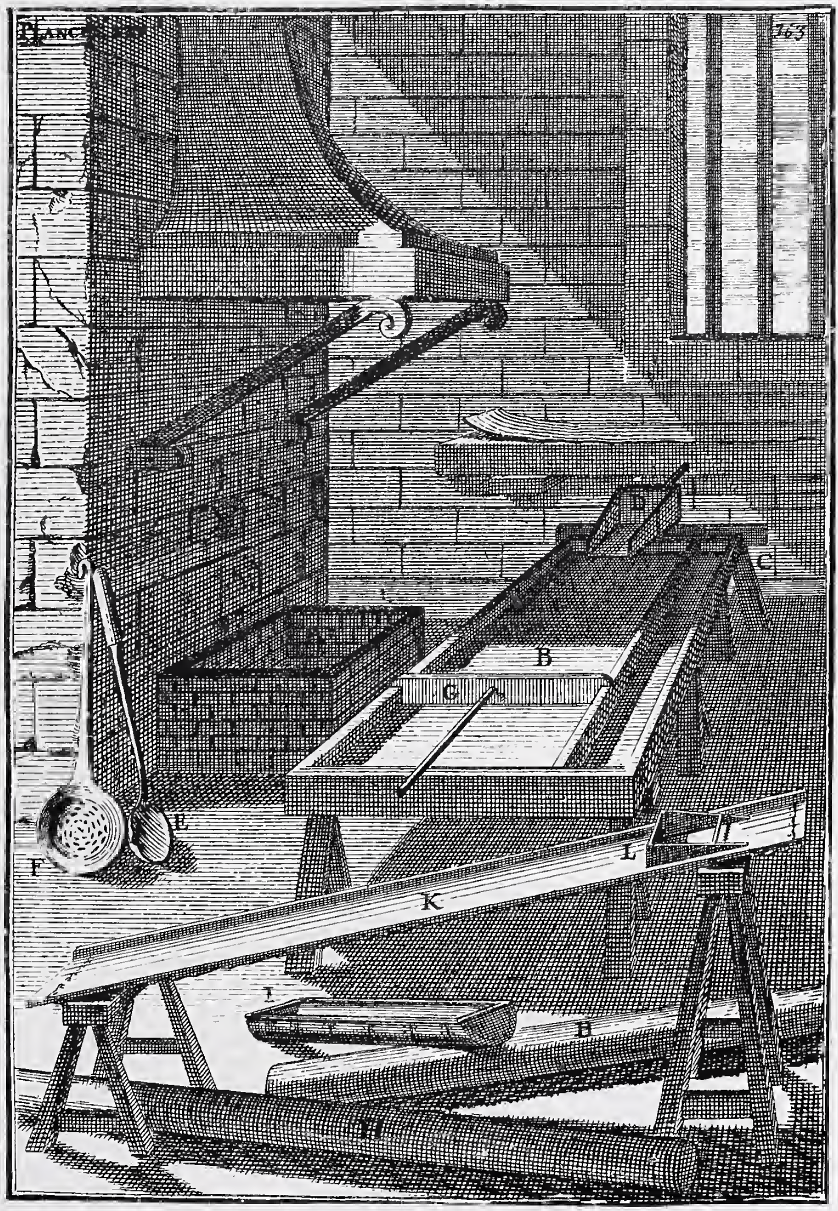


FIG. 9.
From Félibien's *Principes de l'Architecture*, &c., edit. 1676.

M. Félibien's description,* translated as literally as possible, is as follows :—

"Whilst in ordinary houses and small buildings we can do entirely without lead, or employ it very sparingly, this is not so in the case of large edifices; there we require it not only for the ridges of the roofs, for gutters and down pipes, but it is also frequently used, as, for example, in the Louvre, to lay in sheets between the large stones in place of mortar. Lead, therefore, is largely used in building, and the more so since it can be worked with such facility. The greater part of what we get here comes from England in large ingots called 'saumons,' weighing 400 lbs. or thereabouts. Germany also sends us some lead which is in ingots or square 'saumons' of 120 lbs. weight, but the latter is dry and less sweet than that from England.

"As lead is so readily melted it is easy to shape it into any required form by casting in moulds of copper, plaster, or other material.

"But as the lead used in buildings is for the most part required in sheets, the following description explains how plumbers prepare those sheets.

"A pit is built with sandstone and 'terre franche' [see fig. 9], and this is rendered all round inside with plaster. At the bottom is fixed a little smelting-pot in order to receive the remainder of the melted lead, and allow of its being removed more readily afterwards. The pit is raised so that the bottom of the pot is level with the floor. In order to found lead the pit is first heated with charcoal, to prevent the melting lead from sticking to the sides, and to help in fusing the metal. When sufficiently hot the lead and charcoal is heaped in pell-mell and allowed to melt.

"Close to the founding pit should be the head of the casting-table, to allow of the lead being conveniently and quickly transferred from the pit. This table is sometimes 18 feet long and 3 feet or 4 feet wide, as may be required. It is made of great planks of timber, well jointed and bound at the ends with iron, and having a frame all round 2 or 3 inches thick. This frame rises an inch or two above the surface of the sand which it encloses, and which covers the top of the table. The sand is prepared by moistening and mixing it thoroughly with a piece of wood, called working the sand. Finally it is smoothed with a plane of copper, to render its surface level and even before running on the lead.

"When the metal is melted a great iron pan of triangular figure, with flat bottom, square end, and sides tapering from back to front, is brought forward and heated over the pit. It is then laid with its front edge resting on one end of the table, and the back part on a tressel rather lower than the end of the table. Into this iron pan is emptied, with a large ladle, the contents of the founding pit, charcoal and all together, sometimes as much as fifteen or sixteen hundred pounds weight, or even more.

"The charcoal is now removed and the lead well strained with a perforated ladle, after which the handle of the iron pan is raised, and the melted lead shot over the surface of the table. It is pushed forward with a strike the full width of the table, and 4 inches deep by about an inch thick.

"The two ends of the strike run on the rails forming the sides or frame of the table, at which point the strike is notched, to allow of the lower edge dipping down into the frame just far enough to leave, as it sweeps over the surface of the lead, the required thickness of sheet.

"When the sheet is thus cast and cooled the edges and ends are trimmed by cutting off a strip with the draw-knife, leaving the whole sheet clean and square.

"There is another way of running sheets of lead [see frame in foreground of fig. 9] when they are required narrow and very even. In this case the table has a rail on one side only, and is made, as before, of a number of large wooden boards. In place of covering it with sand a piece of stuff or woollen cloth is tightly stretched over the surface, and above this a sheet of linen or fine calico. The frame is not placed level, but has a good slope, one tressel being higher than the other. The strike consists of three pieces of wood fastened together. The centre or cross-piece is 7 inches or 8 inches deep, and of whatever width the sheet of lead has to be. To each end of it and at right angles are fixed the side pieces, which are 12 to 14 inches long, and taper from the same depth as the cross-piece to nothing. This strike is placed on the upper end of the table with the cross-piece towards the low end and the tapered ends of the sides towards the top.

"When the lead is melted a morsel of paper is dipped into it to test whether it is hot enough to run and yet not so hot as to burn the linen covering the table. If the paper catches fire and burns it is too hot, but if it does not scorch and yellow a little it is not yet hot enough to run properly. In placing the strike in position a card is placed under it to form a bottom and receive the molten lead, which is poured into the strike from a ladle. The card serves to protect the linen from scorching during the preparation. When all is ready the two men, stationed one on each side of the table, slide the strike down over the linen, allowing it to move slowly, or pulling it rapidly, according as they wish to leave a thick or thin sheet of lead behind the strike.

"The thin and even sheets of lead made by this method are those used, as already mentioned, in the jointing of the masonry at the Louvre and other great buildings."

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* Book i. chapter xvi. Of Leadwork.

M. Félibien is interesting also in what he has to say about tin and soldering.

"The solder used by plumbers for ordinary work is made by melting together 2 lbs. of lead with 1 lb. of tin. Its quality is known by pouring some from a ladle on the floor or on a table, when, if it be good, it will form what are called 'partridge's eyes'—little clear shining spots.

"Tin also comes from England in great ingots weighing 400 lbs. Some are called 'rose' ingots, others 'ring,' on account of the different brands. The 'rose' is the mark of England; the 'ring' the mark of Rouen, where the metal is examined on arrival. That which comes first from the melting pot when tin is being smelted is more refined and sweeter, and on this better quality the inspectors stamp simply a ring; and according to the different quality they put one, two, or three crotchets, called 'griffes;' the worse the quality the more 'griffes' are put, until in the very brittle and bad samples they break a corner off at some point of the ingot. There are also other marks totally different put on by merchants and makers, but good judges of the metal do not let these marks weigh in estimating the quality of such samples.

"When plumbers wish to tin sheets of lead they have a tinning furnace full of hot charcoal, on each side of which a man stands holding up and heating the sheets of lead. Leaves of tin foil are laid over these, and as the sheets get hot and the tin melts the tinning is accomplished by rubbing and spreading it over the surface with tow and resin."

The invention of rolling lead by machinery was introduced in the time of Christopher Wren, apparently about 1670, for we find a going concern, under the title of "Sir Philip Howard & Co.," advertising themselves freely in that year and trying to throw discredit on the more ancient casting method still being loyally maintained by the Plumbers' Company.

About this time they tried lead as a sheathing for our wooden ships, and from a reference to his name I fancy Pepys (the Diarist) must have had something to say to it. It seemed to cause serious corrosion of bolt-heads, rudder stays, and other exposed iron work, and so after twenty ships or so had been plumbered it was given up for this or other reasons. The new company had still the ships' bread rooms to supply sheet lead for, and there it seems to have proved an excellent lining to prevent biscuit going stale.

Among other inducements the "Advertisement to All who have occasion to Use Sheet Lead" quotes many examples of London houses where the new commodity has been used. In one case cited the sheets were 22 feet long and in another a stretch of no less than 34 feet in 6 lbs. lead; and all are declared to be "worth viewing for beauty and imitation." I fancy the *imitation* of the 34-foot stretch would not be repeated often. The manager of those works attacks tooth and nail the old sand-cast sheets, and asserts that the rolling in his mills, instead of obliterating defects, discovers and enlarges them. They can then be cut off, or, "if not, all's returned again to be new cast." He declares that the sheets are passed twenty or thirty times through the rollers. Obviously, therefore, the machinery must have been far from powerful and was in all likelihood worked by a horse-mill. We know this was the motive power employed for milling lead in the middle of the next century.

After proving to his own satisfaction that milled lead, although dearer by weight, is really cheaper than cast, as, by virtue of its even thickness, it can be used thinner, he quotes Sir Christopher Wren as having declared that milled lead of seven pounds per foot was good enough for any private work and equivalent to 9 lbs. cast sheet. The advertiser of the new ware then proceeds to accept wagers given by sheet-lead casters as to the evenness of their hand-made stuff, and finally clinches everything and silences all opponents by saying he can roll milled lead as light as one pound per foot super!

In a manuscript note on the margin of this old book (in the Institute Library), which was added by its owner in 1712, he declares that milled lead had been used at Greenwich Hospital since 1696, "though opposed by the Plumbers' Company with all the objections they could raise." Blenheim Castle had also done the same, "upon both which buildings several large beautiful coverings may be seen."

My apology for having dilated so long on these purely historical considerations lies in the plea that the introduction of milled lead was so revolutionary a change as to be worthy of more than passing note, the more so that it completed, I am afraid, the downfall of the ancient art of plumbing, to which Viollet-le-Duc refers and deplores as having already far advanced in the seventeenth century.

The casting of sheet lead, however, was continued down into the present century by some of our more conservative bodies, and at any rate until within recent years it was still used on lighthouses. At St. Paul's Cathedral the practice goes on to-day in unbroken continuity, the old lead being remelted mixed with a due proportion of pure pig (to dilute inevitable impurities) before being run out into sheets. Several of the old casting frames remain to this day. One over the Chapterhouse, in Glasgow, is interesting as being made entirely of wood even to the head-pan for the molten lead.

The casting of ornamented sheets was also continued till the middle of the nineteenth century. Though inappropriate when an attempt was made to substitute cast ornament for the positions and

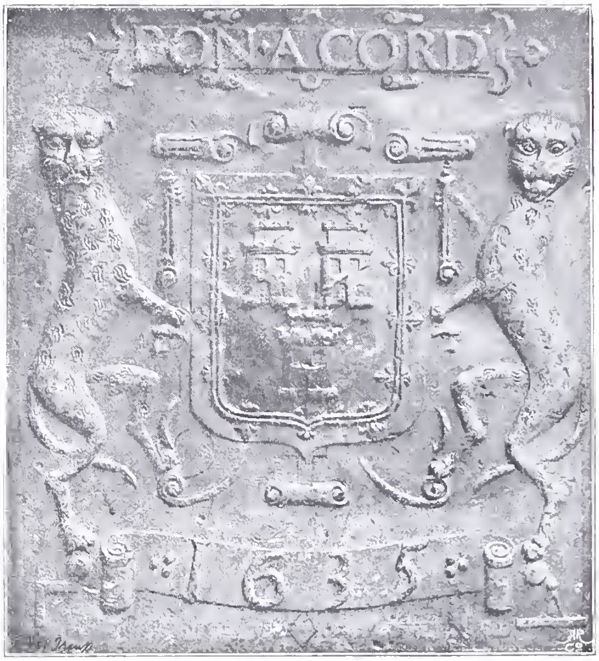

FIG. 10.—HERALDIC DEVICE IN LEAD, FROM ROOF OF ST. NICHOLAS'S CHURCH, ABERDEEN.

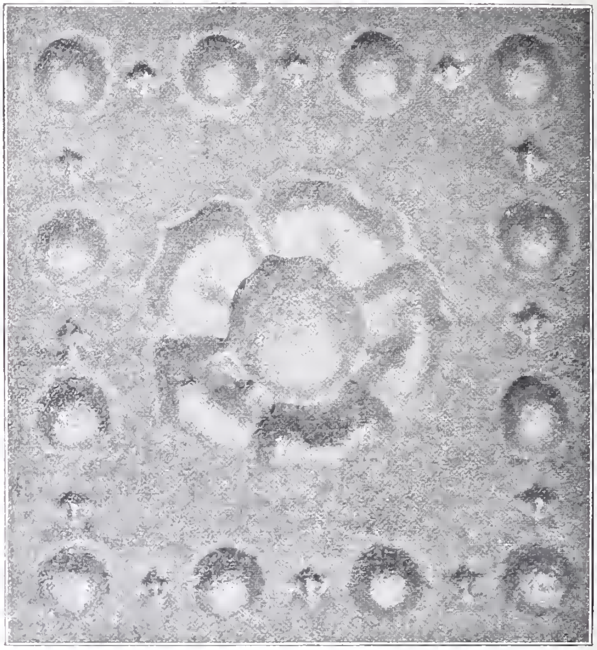

FIG. 11.—PANEL OF CAST LEAD WITH BEATEN ORNAMENT. MR. JAMES WATT, ABERDEEN.

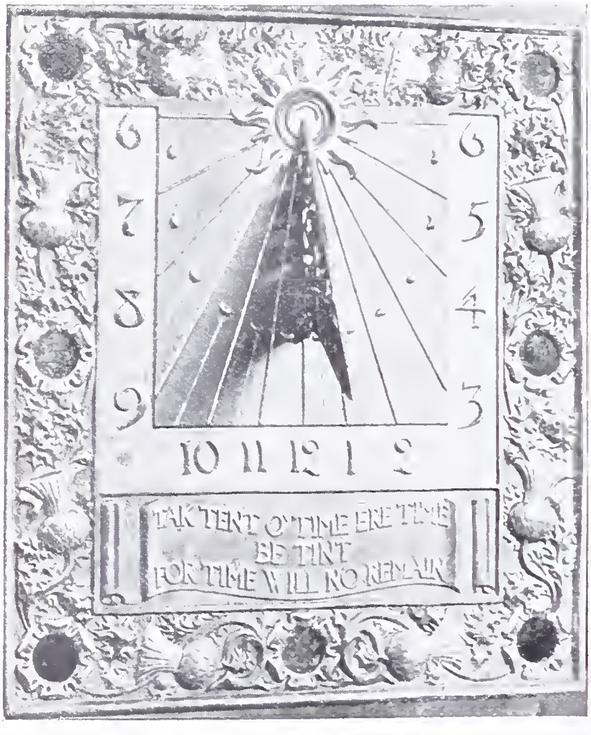

FIG. 12.—WALL SUNDIAL. MODELLED BY MR. JAMES WATT, ABERDEEN.

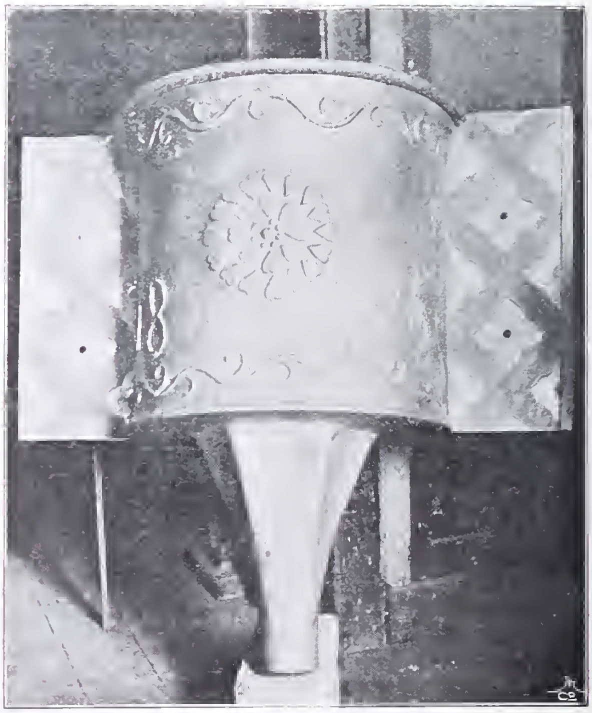

FIG. 13.—CAST LEAD RAIN-WATER HEAD. MADE BY MESSRS. TROUP AND DODDS

purposes described by Viollet-le-Duc, and very properly condemned by him, cast ornament is none the less admirable for the uses to which it was put in the seventeenth and eighteenth centuries—namely, for decorating cisterns, tubs, rain-water pipes, and even heads. Its use for the making of figures and statues in those centuries was quite a different matter, and is not to be compared for a moment with that described by Viollet-le-Duc, which, as he repeatedly insists in regard to the whole of the mediæval lead work, is the culmination of the artistic and logical treatment of the metal. Last-century figures, vases, and garden decorations in lead may more truly be described as *bronze work* reproduced in a cheaper though still charming material.

There is nothing intrinsically wrong in cast ornament; only the abuse of it is wrong, just as in later times cast iron is nearly always bad and wrong in simulating the forms of wrought. But many early examples of cast iron, especially (in this country) those from the Sussex foundries, are delightful in every way, and have been made and cast just as lead work can and used to be done. The prepared sand bed is set out according to some scheme suitable to the object, and patterns are printed on the surface, which can be varied and interchanged to an unlimited extent. The lead is then run over the bed just as in casting plain sheets, and you have this advantage in lead, that the sheet can be cut, bent, and even beaten up after the metal is cast—a performance which is impossible not only in any other metal but in any other material whatever.

One or two illustrations are given showing the various methods of working lead which have just been described. Of these fig. 10 is from the roof of St. Nicholas's Church, Aberdeen, and has probably been made by imprinting a wood carving in the sand on which the sheet of lead was cast. One still remains on the roof; another, somewhat varied in the minor accessories and dating 1639, belongs to Mr. Kelly, architect.

Fig. 11 is a panel of cast lead with beaten ornament by Mr. James Watt, of Aberdeen. To him I am indebted for fig. 12, a wall sundial. This was modelled in plaster by Mr. Watt, and cast in an open mould much as cast iron would be. The gnomon is bronze and part of the ornament gilt. The centres of the roses are red and green stones inlaid.

Fig. 13 shows raised ornament imprinted in the sand on which the sheet of lead is cast, and partly bossed afterwards. The funnel is beaten cast lead, and the wings show ornament in tin on a plain sheet of lead. This is not exactly as described by Burges, as the solder (or tin) is of sufficient thickness to form a relief and strengthen the sheet where the lead-headed nails come. The various parts of this head are wipe-jointed, and here I may observe there is no objection whatever to the use of solder for this purpose, except its cost. Where harm results is in using solder to connect long stretches of lead, when it may check expansion and contraction, or *to repair cracks* already caused by these movements. I believe, however, that cost alone probably influenced mediæval lead-workers in steering clear of solder wherever possible. This head (fig. 13) was made by Mr. Dodds and myself at the Whitechapel School of Arts and Crafts (now Bethnal Green) for Mr. Llewellyn Smith. It bears evidence of having been experimental in more ways than one.

There is much more that might be said about lead, about its uses in days of old, about its abuses in the present day. I shall, however, be content for the time being if I have shown, at all events to some of our younger members, how great a position lead-work held among the crafts employed to raise and adorn the superb buildings of the Middle Ages. It is the easiest metal to use, and yet perhaps the most difficult to use without failure. We can use it now as it was used of old, but we cannot safely do so without taking to heart what Viollet-le-Duc says: "We are too prone to believe in modern methods and too little inclined to inquire into the experience gained by our predecessors." In the same strain I would venture to say to all students of our traditional crafts: Study the old, but do not blindly copy it. First master the meaning of the methods employed. Not till then can you with certainty solve modern problems nor adapt the old methods to meet modern conditions.

9, CONDUIT STREET, LONDON, W., *12th May* 1900.

CHRONICLE.

Announcements.

The President desires to supplement his remarks at the Annual General Meeting (p. 347) by the following announcements:—

Ancient Lights.—The Council have communicated with the Surveyors' Institution in accordance with the resolution passed at the General Meeting of the 9th April, and have requested that Body to appoint a Committee of three to meet a Committee of the Royal Institute, consisting of Mr. E. A. Gruning, *Vice-President*, Mr. J. Douglass Mathews [*F.*], and Professor T. Roger Smith [*F.*], so as to form a joint Committee who may take such steps as may be necessary to secure an amendment in the law of Ancient Lights. Further, the Council suggested that this Committee should add to its number one or more legal members of either Body.

The Annual Dinner.—The Annual Dinner will be held on Friday the 22nd June at the Whitehall Rooms, Hôtel Métropole. H.R.H. the Duke of Cambridge will honour the Institute with his presence on the occasion, other distinguished guests being His Grace the Archbishop of Canterbury and the Rt. Hon. the Lord Mayor.

The Conversazione.—A Conversazione will be held on Tuesday the 19th June at Guildhall, by the kind permission of the Corporation of the City of London.

The Architectural Congress.—It is hoped that a full programme of the Congress will be published in the next number of the Journal.

New Nominations to the Council.

The following further nomination to the division of the Council representing Allied Societies has been made by the Council, the nominee having recently been elected President of the Bristol Society of Architects: FRANK WILLIAM WILLS [*F.*].

The following nomination to the Council has been made by Fellows and Associates conformably with By-law 30, viz.: SIDNEY ROBERT JAMES SMITH [*F.*].

New Nomination to the Art Committee.

The following nomination to the Art Standing Committee has been made by Fellows and Associates under By-law 49, viz.: WILLIAM ARTHUR WEBB [*A.*].

Professional Advertising.

The question of professional advertising having been considered by the Council, they particularly desire to direct the attention of members to the following resolutions recently passed by them:—

1. That it is not derogatory to the profession for an architect to sign his buildings in an unostentatious manner, similar to that adopted by painters and sculptors.
2. That it is undesirable for architects to place their names on boards or hoardings in front of buildings during course of construction, for purposes of self-advertisement.

The Old Curtain Wall at Famagusta [p. 117].

The following communications have been received from the Colonial Office with regard to the Council's protest against the proposed demolition of the old Curtain Wall at Famagusta:—

Downing Street, 27th April 1900.

SIR,—With reference to the letter from this Office of the 13th January, in reply to your letter deprecating the destruction of any portion of the old Curtain Wall of Famagusta in connection with the proposed railway and harbour works, I am directed by Mr. Secretary Chamberlain to transmit to you copy of a despatch from the High Commissioner of Cyprus explaining the reasons which delay his report on the subject.

On receiving the High Commissioner's report Mr. Chamberlain will cause a further communication to be addressed to you.—I am, Sir, your obedient servant,

The Hon. Secretary R.I.B.A. C. P. LUCAS.

Government House, Nicosia, 11th April 1900.

SIR,—I have the honour to acknowledge the receipt of your despatch No. 13 of the 12th January last, transmitting to me for my observations a copy of a letter from the Royal Institute of British Architects deprecating the destruction of any portion of the old Curtain Wall of Famagusta in connection with the proposed railway and harbour works.

I regret the delay which has occurred in replying to your despatch, but it appears desirable before answering to have the land in the neighbourhood of the ancient fortress surveyed, and to settle the boundaries of the public lands surrounding the fortifications. This, I understand, will take about three weeks to do, when the staff is at liberty to take up the work; at present it is not expedient to take off any of the surveying staff, who are all now constantly working under pressure on the surveys rendered urgently necessary in connection with the irrigation works. I hope, however, it will be possible to take up the Famagusta surveys in June next, and when completed a full report will be submitted to you on the question raised by the Society.—I have, &c.,

(Sgd.) W. F. Haynes Smith.

The Right Hon. J. Chamberlain, M.P.

The late William Hepper [*F.*].

Mr. William Hepper, of York, who died on Friday the 4th inst. in his fiftieth year, had only recently joined the Institute, having been elected a Fellow in January last year, in accordance with the unanimous recommendation of the Council of the Allied Society at York. Mr. Hepper was one of the five architects who founded the York Architectural Society in 1882. He had been Hon. Secretary and Treasurer of the Society, and had occupied its Presidential Chair. He was the surviving partner of Messrs. Fisher & Hepper (formerly Gould & Fisher), and had carried out several ecclesiastical works, notably St. Maurice, York, alterations to Holy Trinity, Micklegate, and All Saints', Pavement. He also erected numerous villas in the neighbourhood of York, and carried out alterations and improvements to the Grand Stand and Enclosures for the York Race Committee.

The Architects' Benevolent Society.

With regard to the mention of the Architects' Benevolent Society in the discussion on the Annual Report, the Council desire to call attention to the fact that in former years every new member was called upon to make a donation of two guineas to the Society. Though this rule has long been cancelled, the Council hope that new members, in recognition of the immense value of the Architects' Benevolent Society to the profession, will make such a donation as lies within their power on their joining the Institute.

MINUTES. XIII.

At the Sixty-sixth Annual General Meeting (the Thirteenth General Meeting of the Session), held Monday, 7th May 1900, at 8 p.m., the President, Mr. William Emerson, in the Chair, with 16 Fellows (including 10 members of the Council) and 9 Associates, the Minutes of the Meeting held 23rd April [p. 313]. were taken as read and signed as correct.

The decease was announced of William Hepper (York), *Fellow*, and Harrison Morton (Huddersfield), *Associate*,* and on the motion of the Hon. Secretary an expression of the Institute's regret for the loss thus sustained was ordered to be entered on the Minutes.

The Report of the Council for the official year 1899–1900, a copy of which had been previously issued to every member resident in the United Kingdom, having been submitted and taken as read, its adoption was formally moved by the President and seconded by Mr. Edwin T. Hall [*F.*], whereupon a discussion ensued [*see* Appendix]. An objection having been taken by Mr. Arthur Cates [*F.*] to a passage in the Report calling attention to arrears of subscriptions, and the President having expressed his concurrence with such objection, at the close of the discussion it was

> Resolved, that subject to the omission of the passage in the draft Report beginning on p. 44 with the words "The Council particularly desire," and ending on p. 45 with the words "stringent measures," the Report of the Council for the official year 1899–1900 be approved and adopted.

The lists of attendances at the several meetings of the Council and Standing Committees during the official year having been submitted and taken as read [see *Supplement*] the Council were authorised to appoint Scrutineers to direct the election of the Council and the Standing Committees for the ensuing year of office, and report the result thereof to the Business Meeting of the 11th June.

On the motion of the President a vote of thanks was passed to Messrs. Zeph. King [*F.*] and F. W. Marks [*A.*] for their services as Auditors, and briefly responded to by Mr. Zeph. King.

The following gentlemen were nominated to serve as Auditors during the ensuing year, viz. Mr. W. Hilton Nash [*F.*] and Mr. H. A. Satchell [*A.*].

The existing members of the Statutory Board of Examiners were reappointed, and the following gentlemen were added to the Board—viz. Messrs. A. Ashbridge, G. L. Crickmay, Arthur Crow, R. P. Notley, and H. D. Searles-Wood.

The proceedings then closed and the Meeting separated at 10 p.m.

APPENDIX.

Discussion on the Annual Report.

The motion for the adoption of the Report having been seconded,

Mr. HENRY DAWSON [*F.*] said he wished to refer to the discussion which took place last year upon the important subject of the eligibility of women for admission to membership of the Institute. He observed, with very great regret, that there was no mention of that matter in the Report. He had on the occasion of last year's discussion moved that the Council should obtain the written opinion of an eminent Queen's Counsel as to whether, under the Charter and By-laws of the Institute, women were eligible for election as Associates or Fellows. The voting was very close, and the motion was only lost by the casting vote of the President. It was subsequently suggested at that Meeting by a member of the Council that under the circumstances it would be wiser to adopt the suggestion submitted in the motion, and find out definitively whether the Council's action was within the provisions and powers of the Charter. It would be recollected that in bringing forward his motion he had ventured his opinion that women were not eligible under the Charter, but that before moving in the matter he had obtained the opinion of a learned counsel, and that opinion (from which he then read extracts) was distinctly against the legality of the admission of women. The object of his action was to bring the matter to a practical and satisfactory decision. He recollected that the then President, Professor Aitchison, in giving the casting vote, made the remark that, after all, he thought it would be a judicious thing to get a Supplementary Charter which should place the matter beyond a doubt. He (the speaker) agreed, but submitted it would be undesirable to apply for a Charter unless the counsel to whom the question was submitted gave it as his opinion that their action in electing women was illegal. If his opinion was that they were within the law, then there would be no necessity for proceeding any further. Now, seeing that no notice whatever had been taken of this question in the Report, he wished to ask the President in the name of the Institute generally whether the Council had consulted a lawyer on the matter, and what was the result? If they had taken no action as yet, was it their intention so to do, or to let the matter drop?

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* Since the Meeting the death has been announced of Mr. Charles Evans-Vaughan, *Fellow.*

THE PRESIDENT, in reply, said that it was pointed out at the meeting referred to by Mr. Dawson that the mere opinion of counsel could not be final in the matter, and that the only way the question could possibly be settled would be by an action at law. The Council had no intention of getting counsel's opinion upon the question; but if any member chose to bring a friendly action against the Council for admitting women to membership they would be perfectly prepared to defend it.

MR. DAWSON remarked that, if that were the Council's decision, the result would be that the Institute would remain in a very ambiguous position as to whether they were acting according to the law and within the lines of the Charter. He put it to the Council and to the Institute generally, most earnestly and seriously, whether that was a dignified position for a public body like the Royal Institute of British Architects to take up. He submitted with all respect that it was a position most derogatory to the dignity of such a body. Why should not the Council do as the London University and the Royal College of Physicians had done in 1876 and 1877? In both those cases the feeling of the general body was that women should be admitted. Their Charters were very much on the lines of the Institute Charter, and finding, by the opinion of eminent counsel, that they could not under their Charters admit women, they at once took the only straightforward business-like step and applied for a supplementary Charter, which was granted in both cases. In the name of reason and common sense, for the sake of the dignity and business-like capacity and good reputation of the Institute, he would ask them to adopt a similar course and not to lapse into a condition of *laisser faire*, muddling along, not knowing whether they were right or wrong. As a senior Fellow he wished to enter his strong protest against such a course.

THE PRESIDENT said that the question had been freely discussed at the time of Miss Charles's candidature, that the majority of the meeting on that occasion were in favour of the admission of ladies, and immediately afterwards they elected Miss Charles. It was, therefore, too late for the Council to move, and there was no object in their doing so if the General Body chose to elect the lady.

MR. DAWSON reminded the President that it was not the general body of the Institute, but only the members present at that meeting who elected the lady.

MR. ARTHUR CATES [*F.*] said he had ventured to make some remarks at the last Annual General Meeting which the Vice-President who was in the Chair received with great courtesy, giving the assurance that they would receive the closest attention from the Council. Those remarks turned on the form and manner of the Report. If the closest attention had been given by the Council he could not see that any result had followed therefrom. The Report appeared to be printed in the same form and manner to which he had drawn attention last year, whereas if the Council had taken advantage of the labours of the Secretary, a professional man of letters, he would have given life and energy to a document even so formal as the Report of the Council of the Royal Institute of British Architects. In place of that they had a report which would be hardly fit or proper to be put forward by the directors of a joint-stock company. The shareholders in a company of that description had not only a report put before them, but they also had at their annual meeting generally a long and explicit address from the Chairman, who entered fully into all the business of the year, and in more or less eloquent terms satisfied them that everything was going on well. They had not had the pleasure of an address of that kind, and therefore they expected to get in their Report something more interesting than the meagre, bare, and barren document which the Council thought fit to submit to them. So far, however, as a mere skeleton could have expression, or meaning be extracted from the rattling of dry bones, the Council no doubt desired to express to the members that they were perfectly satisfied with the way in which the Institute was going on—that they were managing it in the best possible way, and that the whole concern was as prosperous as could be. They began with a statement of their meetings. They had had 17 meetings; they did not say what they had done at those meetings, or what they succeeded in arranging not to do, but they went on to say that a certain number of subscribing members had been elected. These, he found, amounted to 69—that, in the course of the year, 69 subscribing members had been elected, and that the total number of subscribing members was now 1,676. But no reference was made to the numbers of the preceding year, as stated in the Report of 1899, when the total number of subscribing members was 1,663; so that the 69 new subscribing members brought in had only supplied the place of the waste by death and withdrawal, and so on, and given an increase of 13 for the year. Then appeared a table showing the prosperity and advance of the Institute for 50 years. He had some little knowledge of the Institute in the year 1850, and the number of its members and its influence, and his impression was that the Institute in 1850 was, as regards the position of the profession at that time, as influential, if not more influential than the present Institute, and that the number of its members then was quite as representative of the profession as now. But they found that the total accretion of Fellows in the fifty years from 1850 to 1900 was 498—a little under 10 per annum. If that was the accretion of the Fellowship of an institution such as theirs, with a profession growing as rapidly as their profession had grown, and spreading all over the country and all over the Empire, he thought it was not a case for much congratulation. Then, looking at the period between 1890 and 1900, there had been in that period an increase of 99 Fellows, maintaining the average of 10 per annum; but the increment from the year 1899 to the year 1900 had been only 5 in place of 10, as in 1899 there were 613 Fellows, while in 1900 there were 618. That was hardly a subject for congratulation. As regarded the Associates there had been a very large increase—and there was a reason for that—but taking the average of the last decade again, 245 was the increment of that period, and 24 would be the annual average; but between last year and the present the increment was only 10 in place of the normal 24. Then they came to the return of the Examinations—the Examinations which were so exceedingly important, not only to the Institute but to the profession at large, for they were the basis of an educational system intended to elevate the position of architects throughout the whole country. It was a pity that in a Report of that kind only these barren figures should be given, without any explanation, without any comment, and in a form and shape which were not encouraging. A matter of great interest in the Examinations was the proportion of candidates that came from London and the proportion that came from the provinces. In the Preliminary 189 passed. Of these, he found that 64 had London addresses, 9 were from Scotland, 4 from Ireland, and the remainder from the provinces. In the Intermediate 63 passed; of these, 21 came from London and 2 from Scotland. But it was a curious thing that if 286 came up for the Preliminary Examination there should be only 119 in the Intermediate. There was a tremendous falling-off between the Preliminary and the Intermediate. That might be explained to some extent by young men finding themselves not fit for the profession, and not going in for it; but, even allowing for this, the falling-off was very considerable.

Coming to the Final, they found the falling-off still greater. Only 84 came up for the Final, against the 119 for the Intermediate. If a young man went forward in the Intermediate and passed that, it seemed a very strange thing that he should drop off at the Final, and that these numbers should diminish so greatly. That was a matter which deserved the consideration of the Council, and of which they should have some explanation in the Report. The Final was perhaps more satisfactory than the other, for last year there were only 63 examined, of whom 31 passed and 32 were relegated; whereas this year 84 were examined, and of these 37 passed and 47 were relegated. Of the 37 passed 20 were from London, 1 from Australia, and 1 a lady, Miss Bessie Ada Charles, who was, he believed, a sister of the lady whose election as an Associate some months ago had caused so much controversy. As one of the successful candidates in the Preliminary last year was a lady, Miss Bessie Potts, they might now hope to have three ladies, the Three Graces, in their list of members, who would set a good example to their sisters to join the profession, in many parts and branches of which they might be exceedingly useful. With regard to the word "Special" in the heading "Final and Special Examinations," there was not a word said as to its meaning. The number of candidates who came up for the Special and passed was two. That was a matter deserving of the Council's gravest consideration. That an examination which was designed expressly to meet the requirements of those who, having entered the profession without going through the preliminary stages of the Examinations, desired to become Associates of the Institute should be passed over in this way was, he thought, unfortunate. The Special Examination was for men in practice over twenty-five years of age, and for chief assistants over thirty years of age. Special consideration was given to them; they were exempted from everything except oral and written examination, and this was conducted with special reference to their professional position and qualifications; yet out of all the hundreds of young men in practice over twenty-five years of age, and of assistants over thirty, only two came up in the course of the year to pass that examination. It behoved the Council to take the matter in hand most seriously, not simply to refer it to the Board of Examiners, but to take it in hand themselves. The Board of Examiners had quite enough to do without troubling themselves with the affairs of the Council or the management of the Institute. Let them take that matter in hand, so that in place of their having only two candidates in the next Special Examination they should have twenty or thirty, and let them go on increasing year after year; the Institute would then gain strength from men who ought to be members of it. He had looked through the list to see if it would be possible to get a return of all the pupils and assistants passing that examination who had been in the offices of members of the Council during the last ten years. It would be interesting to have a return of that kind, as then one would be able to tell how the members individually of the Council had influenced the young men in their offices to come up for the examinations, which were so important from the educational point of view. Such a return he should like to see from the offices of all the Fellows of the Institute; but there was a supreme obligation upon the gentlemen who occupied the position of members of the Council that they should be the first to show the way, and to secure the attendance of their pupils and their assistants; in fact, the proper thing would be for every member of the Council and past members of the Council to require that their pupils and assistants should pass that examination. Then the Council drew attention to the great increase in the number of candidates, and to the fees, amounting to £992 5*s.*, as against £783 6*s.* Those fees, £992 5*s.*, met the expenses of the examinations, £333 1*s.* 4*d.*, and left a net profit of £659 3*s.* 8*d.* The cash balance carried forward was £1,127 4*s.* 1*d.*, and deducting from that the £659 3*s.* 8*d.*, they got the amount of £468 0*s.* 5*d.* as the actual net balance of income over expenditure. How had that £659 3*s.* 8*d.* been earned? It had been earned by the hard work and the services of the Board of Examiners, who did all their work—and very anxious and heavy work it was—without any remuneration and without any acknowledgment at all. They did not appear even to be thanked for their services. He considered it an exceedingly improper thing for the Institute to make a profit out of the fees received from its students without paying any of the reasonable expenses of the examiners. It would have been better if the Council, instead of making that flourish about gaining so much money, had made the acknowledgment that this profit was the result of the services of the Board of Examiners, given so freely and so generously. Last year he had asked a question about the London University. He had asked what had been done and what was going to be done. The Charter of the University, he believed, was settled now, and he thought it would be only right if they were told why it was that Architecture had been put aside altogether. In the Report of the Cowper Commission Architecture occupied an important place. Now it had disappeared altogether from the scheme, and, so far as he could make out, the Institute had done nothing whatever to secure proper consideration for it. At the end of last year a movement was made to establish a British School at Rome. That was an exceedingly important movement for architectural students, but there was not a word about it mentioned; not a word was said as to whether the Institute had taken any part in it—whether it proposed to contribute, from the £659 that it had obtained from the services of the Board of Examiners, anything towards that school. So far as the Council was concerned, Members of the Institute would be entirely ignorant of the fact that any such school was in prospect. The American Universities had established an American school at Rome, which was exceedingly prosperous, and exceedingly beneficial and advantageous to American students; and he must again ask the attention of the Council to the educational system which was now going on in the United States, which was producing a very happy result, and, as he said last year, would probably lead to English students going to America in order that they might become acquainted with the principal elements of their profession. Another matter: The Council appeared to be somewhat weak in finance, and they put in their Report a paragraph which he must say astonished him—the kind of thing they might see in the reports of charitable institutions which existed upon subscriptions extorted, willingly or unwillingly, from various people. But when a great chartered body like the Institute proposed to publish in their Report that "the Council particularly desire to call the attention of members to the growing item of arrears of subscriptions, and while they seek to exercise the powers given to them under the By-laws in a generous spirit it would be a matter of great regret to them if the continued deficit in respect of subscriptions compelled them to take more stringent measures," it appeared to him to be a startling indiscretion, and he would ask that the Council should at once eliminate that paragraph from the Report. It discredited members and discredited the Institute. It would not appeal to the individuals for whom it was intended, for they would not read the Report at all: they had no interest in it. But it would cast a stigma upon the general body which the Council should have hesitated before they expressed. In conclusion he would remind the Council that the Institute was the representative body of the architects of the United Kingdom and of the Empire. The Council should rise to the position they ought to occupy; and their Annual Report should be a document worthy of such a position, in which the interests of the whole profession, whether members of the Institute or not, should be regarded, and which in its framing, matter, and expression should enlist the sympathy of all interested in the advancement and development of their profession and their art.

Mr. WM. WOODWARD [*A.*] said that it might almost be supposed that much of the thought which Mr. Cates had bestowed upon the Report had been transmitted by him to his (the speaker's) mind. The President had said that last year was a very busy year. All he could say was that, so far as the Report showed, the activity of the Council had been most skilfully disguised. He would first refer to the financial report on page 48. He noted that there was an increase of £166 in excess of the salaries of last year. He himself should thoroughly support the increase of salaries of the officials of the Institute who did their work so well; and in saying that he was sure he should have the general body of the Institute with him; but he did think that the Report should state in what way that excess in expenditure on the salaries had arisen. There was an item of £10 for the Garnier Memorial. But there was not the slightest indication of what the memorial was, whether it was sanctioned or not;* in fact, there was that customary dearth of information which distinguished the Reports of the Council. Then there was another reference to a sum of £5 18*s.* for the Penrose portrait photos; but no information was vouchsafed them as to why the photographs were taken, or for whom they were intended. Some information as to why that expenditure was incurred should have been given.† The only other reference necessary to the financial report was with regard to the schedule of property; and it must be a subject of much satisfaction to members to think that the Institute possessed property of the value of £9,648 17*s.* 5*d.* Of course that was a pleasant fiction. But they did not appear to take much notice of depreciation. They still put an abnormal value upon their pictures and busts. But if they attempted to realise their property, he very much feared that the £9,000 would be reduced to something like £2,000. Coming to the Report of the Council as regarded the growth of the Institute, Mr. Cates had already pointed out that they were not told the relative figures of last year. It was always of interest in a report of this nature to have such information clearly given. In 1899 they had a total of 1,663, and in 1900 of 1,676, showing a growth of 13 in the year. But according to the tabulated statement the growth between 1890 and 1900 was 309, or an average of 30 per annum; whereas in this last year they had only a growth of 13. That showed a distinct falling-off in the growth of members of the Institute. The increase in the candidates for examination appeared at first sight satisfactory; but he must confess that what Mr. Cates had said considerably lessened the satisfaction with which he first viewed those figures. On page 42 reference was made to the designs and drawings exhibited for the Institute prizes, and to the critical observations made thereon by Mr. Bodley. Reference, however, was not made to the Address delivered by the President. Of course those who were present must have listened to those Addresses—as he did certainly—with great satisfaction and very much pleasure. But he could have wished that there had been in those Addresses a little more detailed direction and instruction to the students who had taken part in the annual competitions. There were one or two prominent features which to his mind distinguished the bulk of the drawings to which useful reference might have been made. First, the students might have been asked why there was such a marked similarity between their designs and the characteristics of some of the prominent members of the profession. It seemed to him that there was very little if any attempt on the part of the students to import into their designs that original thought which he was sure they all desired. The students might have been asked why there were so many glaring instances of want of knowledge of perspective. Again, they might have been asked why there were such lamentable instances of want of knowledge of figure drawing. In architectural drawings it was of course not absolutely necessary to draw the figure, the merest outline would suffice, but at all events that outline should be in correct proportion. Again, the students might have been asked why they would not print the inscriptions to their drawings in such a manner that one could read them. It seemed the aim of architectural students nowadays so to print upon their drawings as to make it almost impossible to decipher what they wish to convey. His master, Mr. Arthur Cates, gave him a very good drilling in caligraphy and in printing; and he had endeavoured to impart some of that information and some of that art—for it was an art—to students under his own control. He thought that a word to students—in fact, to everybody—urging them to make their caligraphy and printing as clear as possible would be of advantage. Some other work of the Council, the proposed architectural congress and the examinations in the Colonies, were matters for great satisfaction. The non-success, however, of their representations to the Local Government Board on the subject of an alteration in the administration of building by-laws was matter for great regret. The next point he would refer to was with regard to Vauxhall Bridge. They were told in the Report that delegates from the Council had viewed the drawings and models for the proposed bridge. They were not told, and he himself had not the slightest idea, who those delegates were; he was therefore utterly unable to imagine who wrote the letter referred to in the Report, and printed on page 78 of the Journal of the current year. This was a letter signed by the Secretary of the Institute and sent to the London County Council from the Royal Institute of British Architects, and the letter was intended to be a criticism on the models and designs for Vauxhall Bridge. Paragraph 1 said: "The main piers should be increased in width, if this can be arranged with the Thames Conservancy." The Institute was giving the Council the benefit of its criticism: why, then, did it not ascertain whether or not it could have been arranged with the Thames Conservancy? If it could not, no blame could attach to the engineer of the London County Council for not having been able to secure it. About the middle of paragraph 2 were these words: "A flat band with slight projection would serve its purpose better than the large projecting capping." "Its purpose!" What purpose? There was no reference to the purpose. That, again, was information which a technical body was attempting to convey to a body like the London County Council. The end of paragraph 3 ran: "At present the stopping of the neckings to cap and base against the rustication is very awkward merely as a matter of detail." What was the engineer of the London County Council to get from that? What was the architectural student who desired to partake of the erudition of the Institute to gain from the words: "It is very awkward merely as a matter of detail"? Again, it said: "It is a question whether it would be a distinct improvement." If it was thought to be a distinct improvement why not say so? And if they were not able to say it was a distinct improvement, and to point out wherein it was a distinct improvement, no reference whatever should have been made to that paragraph. A little later on the letter stated: "This would obviate the awkwardness of the raking lines of the caps of the circular columns which has been ignored in the model and quarter-inch scale drawings." First of all, they knew as architects that columns were customarily circular; if they were not circular they were piers. The phrase

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* See Journal, Vol. VI. 24 Dec. 1898. pp. 103–4.—Ed.

† *Ibid.* 28 Jan. 1899, p. 167.—Ed.

"which has been ignored" in that sentence was one which nobody could construe. He challenged the man who wrote it to show what he meant by it. Later on they were told: "Some expedient should be adopted whereby the voussoirs can be deepened." Was it not their duty to tell the Council the expedient which they, the technical body, would have adopted? Again, in paragraph 8: "The alternate narrow and broad dies in the balustrade have a restless and unmonumental appearance." He defied the draughtsman desirous of altering his design to understand what the Council of the Institute intended by that. Then, again: "It is a matter of question if a solid parapet would not assist the appearance of solidity which the bridge now appears to lack." They were giving the information, or supposed to be giving information, to the ignorant engineer and architect of the London County Council. [THE PRESIDENT: No.] And that was the kind of information they gave him. Then the letter stated: "Generally speaking, the Council are of opinion that the architectural treatment and detail of the bridge lack that distinction of style and scholarship." What was one to get from that? "Lack that distinction of style and scholarship." "Scholarship" in a bridge, to his mind, was a very vague expression, and certainly the "lack of distinction" might have been elucidated by some reference, some definite information which would have enabled the architect or the engineer of the London County Council to improve the design. He repeated that the letter was unworthy of the dignity of the Institute of British Architects, and he was quite sure it could not have that effect upon the London County Council which, had it been properly composed, it might have had. With regard to the Report of the Literature Standing Committee, he was glad to find a substantial increase in the number of readers and borrowers from the Library. A growth of 720 borrowers and readers was very satisfactory, and it showed that students, at all events, were taking advantage of the very excellent library of the Institute, and were attending it in greater numbers than they had hitherto done. The Practice Standing Committee, he saw, proposed to revise the Institute pamphlet on Dilapidations. He did not know what revision the Committee proposed, but it should not be the policy of the Institute or of its Committees to make every man his own architect. It was impossible to lay down any hard-and-fast rule or regulation for dealing with dilapidations. Dilapidations depended almost entirely upon the particular covenants in the lease. Any attempt to systematise practice regarding them would not only tend to take work out of the hands of architects, but would be entirely misleading; and he thought it had much better be left alone. Then the Practice Committee made reference to "the payment and amount of fees in party-wall cases." How was it possible for the Committee to lay down any schedule of fees for party-walls? Such fees must be regulated by the amount of work and, to some extent, by the standing of the professional man engaged in the case. It would be mischievous to endeavour to lay down any schedule of charges in party-wall cases. These must depend entirely upon the particular circumstances of the case. The Science Standing Committee had not done much, according to their Report. They may have done a good deal, but they did not show it. But if they could arrange a standard size for bricks, that would be very desirable. As to the Report as a whole, he thoroughly endorsed all that Mr. Cates had said as to the necessity for making this document full. For one reason, it was the only source of information the provincial members got, apart from the JOURNAL, which in itself sometimes was not so full as it might be; that is to say, the matters were not so fully reported as they might be; and, that being so, the Report ought to be, as far as possible, a detailed description of the work done by the Council. One other important matter he had forgotten to refer to. There was no reference whatever to the communications which had passed between the Institute and the London County Council with reference to the new street in the Strand. He understood the Council were appointing four architects, and members would like to know the names of those architects. Again, they had never been told the names of the six architects selected to compete for the Old Bailey designs, although the information had been asked for. In conclusion he would ask that the Report should be framed more on the lines suggested by Mr. Cates, and made so full that they would be able to gauge exactly the work done, so that members might be more in a position to commend the Council for the interest they had taken in the profession, and the industry they displayed in advancing the objects of the Institute.

MR. W. HILTON NASH [*F.*] asked leave to refer to a small matter. He remembered when he was elected it was understood that new members should make a donation of some useful book to the Library, or in lieu thereof a sum of money. For some reason or other that practice had dropped out. He wished to throw out a suggestion on behalf of the Architects' Benevolent Fund, viz. that in future each new member should subscribe a small sum to that fund. It need be only a small matter—say one guinea or two guineas—and this would materially help the Society, which was much in need of funds.

MR. H. HARDWICKE LANGSTON [*A.*] remarked on the absence of any report from the Competitions Committee. He called attention to it because on page 44 of the Report it was stated that "since the present Council came into office the President had appointed twenty-one arbitrators under building contracts, and eleven assessors in the following public competitions," the last-named of which he wished particularly to refer to, viz. the Berkhampstead Girls' Grammar School buildings. [Mr. Langston here read various clauses from the printed particulars issued by the promoters of the Berkhampstead competition, and characterised the conditions as being grossly at variance with the settled practice both as regards professional remuneration and the conduct of competitions generally according to the custom of the profession as ordinarily recognised and sanctioned by the representative body.] Continuing, Mr. Langston asked whether the President, in nominating an assessor in this competition in accordance with the invitation of the promoters, had made use of the opportunity to urge the amendment of these unjust and objectionable conditions. He asked the President to give them some assurance that he had endeavoured in this competition to secure reasonable and equitable terms for the architects taking part in it.

MR. C. H. BRODIE [*A.*], one of the Hon. Secretaries of the Practice Standing Committee, wished to call attention to the fact that the Report of that Committee as printed was not the whole Report as sent in to the Council. One of the paragraphs omitted referred to an important judgment in the Scotch Courts bearing upon the practice of the architectural profession. That had been eliminated, possibly for a good reason, but he should have been glad if it had been stated. He should be glad to know what action the Council were taking on that. The other paragraph stated that the Practice Committee had suggested to the Council the advisability of reducing the price charged for the "Building Act" forms published by the Institute. The Council, he regretted to say, had not seen their way to reduce the price of those papers. The price charged for them was threepence, but similar papers, equally good—some members said better—could be obtained from many stationers at three halfpence. If the Building Act needed forms which were to be of any use at all they ought to become practically universal, and that could not be the case if they were published by the Institute at twice the amount at which others were published. As he hoped that those forms would become almost universal, he again ventured to express the opinion of the Practice

Committee that the price should be reduced to three halfpence. Reference was made in the Report to the very successful meeting which had taken place on the subject of Ancient Lights. Would the President be good enough to tell them what was being done with reference to that matter? With regard to the revision of the pamphlet on Dilapidations, he should like to point out to Mr. Woodward that the Practice Committee knew perfectly well that the subject of dilapidations depended entirely upon the covenants in the lease; but he would suggest that the Institute, perhaps in conjunction with other bodies, might secure the almost universal adoption of a repairing covenant, and of a surrender covenant, which should avoid many of the disputes which took place in settling matters of dilapidations; and they might also secure the adoption of a model schedule. The pamphlet was published originally in 1844 and was re-issued in 1869. There had been many decisions of the Courts since then, and he was convinced that the Committee had been well advised in taking up the subject of the revision of the pamphlet.

Mr. JOHN SLATER [*F.*], B.A., said he was quite sure that there was no member of the Council, either present or absent, who was not very pleased indeed to have criticism of the Annual Report issued by the Council. Such criticism was a healthy sign, and the Council would be the last to resent it. With regard to Mr. Cates's criticism, it seemed to him to be directed more against the form of the Report than anything else. He might say for himself—and all present, he thought, would agree with him—that even when Mr. Cates came down as Phocion to prune their periods, they were always glad to see him. His remarks, they knew, were offered with a view to the best interests of the Institute, which he had at heart as much as anyone. He noted, too, that Mr. Woodward criticised the form of the document, and yet complained of the President's address and Mr. Bodley's address that they were rather too poetic, and wishing they had been a little more prosaic and gone a little more directly to the facts. The Report certainly did not err upon the side of the poetical. But it did attempt to give a fair record of what had been done. With regard to the Institute Examinations Mr. Cates must know that it was an absolute necessity that the numbers of the candidates should diminish as they went up from the lower to the higher examinations. It occurred in every University. Take Cambridge, for instance, where people went to get their degrees as a matter of course; even there they would find that the number of entrances largely exceeded the number of degrees taken. It was a matter of course that the number of candidates entering for the Preliminary Examination should be greater than those who entered for the Intermediate, and that these, again, would be more than those who went on to the Final and Special examinations. A certain number always dropped out; and they even advised candidates that it was desirable that they should take a longer time for preparation between the Intermediate and the Final than between the Preliminary and the Intermediate. It was indeed matter for regret that more candidates did not come forward for these Examinations But how were the Council to remedy that? They had endeavoured to lighten the work of the preliminary part of the Final Examination—that is to say, the testimonies of study to be prepared by pupils, which from the evidence brought before them was found to be too heavy for young assistants and those starting practice for themselves. Possibly the efforts they had made in that direction might have the effect of increasing the number of candidates for the future. But the matter really did not lie with the Council. It lay with the members of the Institute in town and country: if they would induce their assistants and pupils to enter for the Examinations the outlook for the future would be much more satisfactory. With regard to the new Teaching University for London, Mr. Cates knew very well the difficulties that had cropped up during the last ten years—difficulties which made people who had the question at heart despair of ever getting anything settled at all. It was true that the Cowper Commission, before which Mr. Cates, Mr. Macvicar Anderson, and himself gave evidence, had suggested in their scheme that the Institute should nominate a member of the Senate. After that, the Cowper Commission Report was practically put on one side, and a Royal Commission was instituted, and they decided that the Institute should not be represented on the Senate. He was afraid whatever they had done they would never have been successful in getting a representative. With regard to the progress of the scheme, the Senate of the new University had not yet been appointed, and the faculties to be constituted could not be decided until after the appointment of the Senate. He believed it was quite possible that Architecture would receive some sort of recognition in those faculties. The matter was not yet, at any rate, decided, and if the Council could do anything to bring about such recognition, members might be assured that they would be only too pleased to do so.

Mr. CATES observed that his question was whether the Council of the Institute had taken any action in the matter.

The PRESIDENT said that they had written some time ago, and in answer had received the following letter:—

"*London University Commission,*
32, *Abingdon Street, S.W.*: 17*th May* 1899.

"Sir,—I have the honour to acknowledge the receipt of your letter of the 16th instant, and to state, in reply, that my Commissioners have not lost sight of the claims of Architecture to be included in the curriculum of the reconstituted University of London.

"Your letter of 16th December last contemplated the establishment of a Chair of Architecture in the University. The foundation of University Chairs is not primarily one of the functions of my Commissioners, but I feel sure that they will be glad to receive any funds which may be placed at their disposal for that purpose.—I am, Sir, your obedient servant,

(Signed) "T. Bailey Saunders.

"*The Secretary, R.I.B.A.*"

Nothing further had been done since—indeed, nothing could be done, as the Senate had not been formed.

Mr. SLATER, continuing, said that, as regards the membership of the Institute, it was a matter of the greatest disappointment to the Council that more candidates did not come forward. The Council at any rate had not been lacking in their endeavours to increase the membership, and all they could do in that respect the Council might be relied upon to do. Mr. Brodie had referred to the omission of a paragraph relating to a Scotch case which was recently decided against an architect. That was a matter that received most careful attention from the Council. They took the opinion of the Scotch Allied Societies, knowing that they would be likely to have the case before them; and as a result they came to a very decided opinion that it would be unwise to attempt to reopen the matter, partly from the facts of the case, and partly from the way in which it had been presented to the Scotch judges. They felt certain that if they did attempt to reopen the case, there was a great probability that there would be another and a stronger decision against the architect. They consulted the Councils of the Scotch bodies in the matter, as they naturally would know more about Scotch law and Scotch practice than they in England did, and they found that the matter had already been put before them, and that they also had come to the decision that it would be unwise to prosecute the matter any further.

The PRESIDENT remarked that the Council had also consulted their own solicitors as to whether they should get Counsel's opinion on the subject.

Mr. SLATER, continuing, said that there was one other remark of Mr. Cates's which he should like to reply to. He had referred to the well-known fact that the Board of Examiners devoted a very great deal of time to the work of examination without any remuneration. That matter was brought before the Council some few months ago, and was gone into very carefully, and the decision come to was received with perfect satisfaction by the gentleman who brought the matter forward, namely, that there was not sufficient margin of funds to pay the examiners, at any rate adequately; and personally he thought he was only voicing the opinion of many other members of the Board of Examiners when he said that they would much rather do the work gratuitously than be given a small fee which would be no adequate remuneration at all. With regard to Mr. Cates's suggestion as to the omission of the paragraph about the arrears from the Report, he had had no consultation with any member of the Council about it; but it did strike him (the speaker) that there would be no particular harm in omitting that paragraph. He did not think it would do much good, and it would perhaps be a little more dignified if they did not put it in. He for one should cordially support the proposal for its removal.

Mr. E. W. HUDSON [*A.*] asked leave to support the proposal for the elimination of the paragraph referred to. There was another matter which had not been touched upon—viz. the important change to be made in the by-laws, which would allow two additional representatives of the Associates to be placed upon the Governing Body. The matter had been referred to in the Report, but he felt a little sorry that there should have been apparently some doubt in the minds of the Council that the two gentlemen who should be selected would not have the dignity and prestige of the Institute quite as much at heart as any of the Fellows who had seats on the Council. This further representation of the Associates was an important and very desirable step, from which the most satisfactory results could confidently be looked for. It was a matter for congratulation that the Institute revenue had increased to the extent of £1,100. They had been told it was due in great measure to the kind exertions of the Board of Examiners. If acknowledgment was not made of their services in the Report, he would suggest that it was only right that it should be.

The PRESIDENT pointed out that the matter was referred to on page 42 of the Report in the following terms: "The Council desire to express their cordial thanks to the Board of Examiners for their services."

Mr. HUDSON, continuing, said that the Journal and the sale of publications seemed also to be matters for congratulation. There seemed to be a large sale of publications. As far as the expenditure upon the Journal was concerned, that was a matter upon which they ought not in any way to seek any economy. It was now carried on in a very satisfactory way, and he hoped it would not suffer by undue limitation of funds. With regard to the proposed change of premises, that was a matter that took him by surprise: he had no idea that any change had been in contemplation. He felt very much attached to their present premises: it had always seemed to him that if the Institute could possess the whole of the buildings, they would form a very satisfactory home for the Institute. As regards the furniture and the value of the stock, he was pleased to see it was so extensive. He only wished they knew more about the value of the works of art which were on the walls, and which were so highly appreciated. He wished some notice could be put in the Journal of the valuable paintings they possessed; it would be of great interest to new comers to know who the Presidents were, and by whom their portraits were painted.

The PRESIDENT said he should like to echo Mr. Slater in saying how pleased they always were to see Mr. Cates among them, even when he came to condemn them so severely as he had done that evening. His remarks showed that his interest in the Institute was as keen as ever, and for that they were extremely obliged to him. With regard to the form of the Report, he could not agree that it was absolutely necessary for the Council to furnish details of everything that they had done. They stated in bald terms that they had held seventeen meetings of the Council. If it was supposed that they had done nothing in that time, he thought perhaps it might have been as well to add the number of committee meetings they had held, for these amounted to double or treble the number of the ordinary meetings. He was afraid that if the Report entered into elaborate details of all the business of the Council, it would be extended to such an abnormal length that the printing cost would be something alarming to contemplate. With regard to the Examinations, Mr. Slater, who was thoroughly conversant with them, had already answered some of the points raised by Mr. Cates. A great many candidates passed the Preliminary or the Intermediate Examination who did not enter for the Final, first, because they had certain qualifications which enabled them to pass the first, and they had not the qualifications which would enable them to pass the second or the last, and therefore they did not come forward. Then a good many went up for the Preliminary Examination because it exempted them from examinations when they were entering other careers. That also made a difference in the number coming up for the Intermediate and the Final. He agreed with Mr. Cates that some mention should have been made of the number of candidates who entered for the Special Examination, and he would ask the Secretary to see that this was done in future. With regard to inducing young men to come up for the Examinations, architects might use their influence with their pupils and assistants, but he could not see that the Council could do anything in the matter. As regards so few coming up for the Final, he could not help thinking that the Testimonies of Study had a good deal to do with this. The Testimonies of Study were exceedingly heavy, and their preparation required close application and long hours of overtime. It was indeed often impossible for young men to get time to prepare the various drawings. With regard to the sentence about the arrears, he quite agreed that it should be omitted. At first sight it had not struck him in the light now thrown upon it by Mr. Cates. As a matter of fact, the arrears amounted sometimes to a very large amount. Still, he thought it would be in bad taste to refer to it in their Report, and he agreed with Mr. Cates that the sentence had better be deleted. With regard to Vauxhall Bridge and the letter which Mr. Woodward had criticised, that question was dead now, as far as the Council were concerned. Mr. Woodward apparently thought that they should have given in their letter explicit details as to how the design of the bridge should be altered. He did not mind saying that some members of the Council were desirous of making a design for the bridge, or thought that the Council or the Institute should provide a design for the bridge. Personally he objected strongly to anything of the kind, because he thought it was a wrong principle for the Council, or the Art Committee, or any member on behalf of the Institute, to make designs of the kind for a public body. It was not their business. They urged upon the County Council the desirability of appointing some architect of known repute and competency to act with the engineer in the matter of designing the architectural part of the bridge; and they gave reasons for such a course. But the County Council hesitated to fall in with their views, partly, it was understood, out of regard for the feelings of the engineer, and partly because they objected to such divided responsibility. Anyway they did not wish to do it, and the matter remained in the hands of their engineer. As regards the subject-matter of the letter, the Council, with the members of the Art Committee, were mainly responsible for it, and their object was to draw attention to the points they considered required attention. That was practically the last thing they could do in the matter. The County Council offered to supply a model if the Institute would prepare a design; but this offer the Institute Council declined. It was not the function of the Institute. If the County Council wanted architecture, they must employ an architect; and if they did not see that the public paid more regard to architecture now than it did some years ago that was their fault, not the Institute's. The matter had been represented to them very plainly. Equally plain representations had been made to the County Council in the matter of the Strand improvement, which Mr. Woodward had also referred to. In connection with the Strand improvement, he would refer to the remarks made by Mr. Langston in connection with the Berkhampstead competition. The steps he (the President) had taken with regard to this competition were as follows: he wrote to the Board nominating an assessor, and pointed out the necessity of altering certain clauses in their conditions, and urging them to discuss these conditions with the assessor with a view to their modification. He also not only wrote to the assessor to the same effect, but he saw personally the assessors he had named in two cases—the last two mentioned—and pointed out to them the necessity of taking a strong course and insisting on the conditions being altered, or refusing to act. In the case of the Walsall Town Hall competition, Mr. Macvicar Anderson told them that he should decline to act unless they altered the offending clause, and the result was that they consented to alter it. He could not do more than that in nominating an assessor. It was not for him to go through the conditions of every competition and insist upon the promoters altering them. If he did, his time would be entirely taken up with such matters. Scarcely a week passed that he had not to nominate either an assessor or an arbitrator. With regard to the Strand improvement and the conditions laid down by the London County Council, he did not mind saying in that room, however much he might be blamed for it, that he thought those conditions were an insult to the profession. For the London County Council, the most important municipal body in the world, to offer such conditions to architects, and to expect to obtain the best professional talent by increasing the paltry fee of £150 first offered to £250 for designing over a mile of frontages was, he considered, derogatory to the dignity of the profession. However, the Institute Council were asked to nominate certain architects, and after long and careful deliberation they came to the conclusion that the best course would be to nominate, or the County Council would have an excuse for saying that it was useless to attempt to approach the Institute, or to ask their assistance in any manner, and therefore they would not try again. So the Council nominated the architects as desired, but at the same time sent to the London County Council a letter protesting against the conditions, and pointing out that if they obtained designs from the eight architects nominated, they certainly should ensure that the men whose drawings they selected should carry out the frontages. That was also explained by a deputation from the Institute to the Committee of the County Council, but they seemed to think that £250 was quite sufficient to pay an architect for a mile of designs. At present it would be premature to give the names of the architects nominated, but these and the whole of the proceedings in the matter would be published in due course. As regards the dilapidation scale fees, the Practice Committee seemed to think differently from Mr. Woodward, and it was just as well to hear both sides of the question; but the matter would, of course, come before the Institute for consideration. As to the party-wall notices, which Mr. Brodie contended should be sold at a lower price, he would point out that at the present price 2,185 copies had been sold this year, which seemed to show that the price did not very much matter. The Council had had the matter under consideration, and the price of other papers as well, and they came to the conclusion that it was not worth while to make the reduction. Mention had been made of the Architects' Benevolent Society. He wished more annual subscriptions could be obtained for that Society. The subscription might certainly be a very small one, but he was afraid it might bear rather hardly on a great many of the young men coming up for the Associateship if they were forced to subscribe a certain sum to the Architects' Benevolent Fund. It was right, however, that the suggestion should be made. It was astonishing how many members of the Institute did not subscribe at all to the Fund, and how very few gave donations. The Honorary Secretary suggested that a notice in the JOURNAL might call attention to the claims of the Fund. He would give directions for that to be done.

MR. EDWIN T. HALL [*F.*] suggested that a slip might be attached to the papers to be filled up prior to election drawing attention to the Fund, as many architects did not know of its existence.

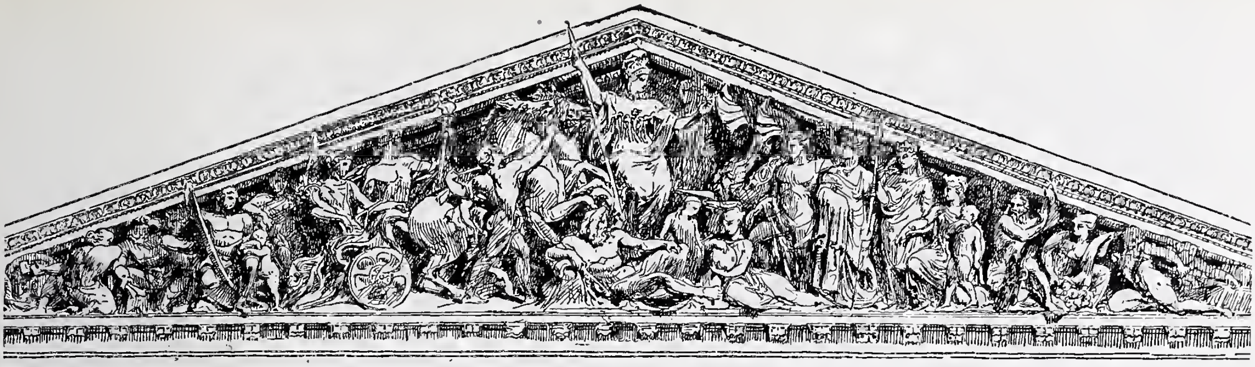
THE PRESIDENT: With regard to the Institute premises, they were not contemplating any change in that direction at present; but if there were any prospect of getting more fitting premises for the Royal Institute of British Architects than those they now occupied they might take the matter into consideration.

[The motion for the adoption of the Report, with the omission of the sentence respecting arrears, as proposed by Mr. Cates, was then put to the meeting and carried unanimously.]

THE PRESIDENT said he should like to propose a vote of thanks to the Auditors of last year. The work of auditing the accounts of the Institute was no light work, and Mr. King and Mr. Marks deserved the hearty thanks of the Institute for their labours.

MR. ZEPH. KING [*F.*], in responding, said it was a great pleasure to find the accounts so well kept, and to note such a satisfactory balance. Mr. Woodward had referred to the value of their property. It was, of course, difficult to put a price upon it. He had not looked closely into that question, but he presumed the portraits on their walls represented very nearly the amount originally paid the artists who painted them. Those portraits were the work of very eminent artists, whose works increased in value the longer they were kept. Illustrations of that were often afforded at Christie's, when the prices reached frequently exceeded the original cost. With regard to their seeking a new home, what he had felt for a considerable time was this: They were now getting a good surplus every year, and he should like to see a portion of that surplus invested so as to form the nucleus of a building fund. Doubtless many members of the profession might be disposed to contribute to that fund or bequeath money to it, so that in time they would have sufficient to enable them to erect a building worthy of the Royal Institute of British Architects. The Civil Engineers and the Surveyors had buildings of their own, and he thought it rather derogatory to the Institute that it should not have a building more befitting their calling, and more suitable for the meetings of the representative body of architects. It would prove more attractive to visitors, and would be a source of pleasure to themselves.

Erratum.—The signature to the obituary notice of Mr. W. J. Anderson, p. 313, should have been Alexander *N.* Paterson, not Alexander *W.* Paterson.



. Idea for the Frontispiece of a Publick Building in England.

C. R. Cockerell, fecit 1843.

THE WORK OF PROFESSOR COCKERELL, R.A.

By J. M. Brydon, *Vice-President*.

Read before the Royal Institute of British Architects, Monday, 21st May 1900.

THE subject of our appreciation this evening forms, so to speak, a connecting link between the old order and the new. Born towards the end of the eighteenth century, Cockerell came when the men and the methods of the Renaissance were gradually being worked out. Chambers, the last of the notables, died when Cockerell was only eight years of age; Robert Adam, the most famous of the well-known brothers, some four years before that event. Under the latter English classic had become somewhat emaciated, and though Chambers still upheld the principles of the Renaissance as understood and practised in its best days, yet it was manifest the letter of its tradition was being neglected, if not altogether lost sight of.

With the close of the century a change came over the spirit as well as the letter of classical work in England. Whatever may have been the faults of the English Renaissance School from Inigo Jones to Chambers, it at least did not attempt to hide its buildings behind pseudo-classic fronts, or palm off Greek and Roman temples for Christian churches. Its use of classic details was always subservient to the purposes of its buildings, and its buildings to the requirements of the time in which they were built. No one, for instance, could possibly mistake St. Paul's for a Roman temple, or Somerset House for the palace of the Cæsars, and thus it was throughout the two hundred years of the Renaissance; but with the beginning of the century now fast drawing to a close other methods came into practice. For example, as Fergusson says, "the architect failed in his endeavours if you are able to detect in St. George's Hall, at Liverpool, any feature which would lead you to suppose the building might not belong to the age of Augustus," and "the architects of the Renaissance had a distinct principle before them, which was how to adapt classical details so as to make them subservient to modern purposes. To do this always required thought and invention on their part, more, in fact, than they could frequently supply. If the Revival architects had a principle it was that modern purposes should be made subservient to foregone architectural styles." It is necessary to bear this distinction in mind if we would fully appreciate the efforts made by such men as Cockerell and Barry towards the elucidation of the true principles of design, for after all, as I need hardly say, archæology is not architecture.

Many causes contributed to bring about this result, chief among them being the publication of Adam's *Spalatro*, Taylor and Cresy's *Rome*, and Stuart and Revett's *Athens*, which was continued by the Dilettanti Society, and ultimately completed by a work on the Researches at Ægina and Bassæ, by Cockerell himself. Hardly of less influence also were the studies of Greek and Roman antiquities on the spot, more especially the former, which were considered so essential a factor in the training of the early nineteenth-century architect; hence the rise of what perhaps I may be allowed to call the scholars of the profession—men who were familiar from personal study with the principles and practice of the architects of the great ages of Greece and Rome. Fergusson calls them "Revivalists," or the architects of the Revival as distinguished from those of the Renaissance. I am quite willing to accept the term; it sufficiently explains the root of the distinction between the men of the two schools. As to results, one at least became very marked indeed—namely, the adoption of Greek models and Greek detail almost to the exclusion, for a time at least, of those of the Renaissance. Inasmuch as this constrained men to think more of proportion and give greater study to delicacy and refinement of detail, it must be held to have been of distinct advantage to the Revivalists, but, like all such imitative work, it carried within itself the seeds of its own decay; and even had it been entirely successful—which it was not—the aim can hardly be said to be a very lofty one, or at all worthy the mother of all the arts.

It will not surprise us, therefore, to find that men like Barry and Cockerell soon perceived the "hopelessness," as Fergusson calls it, of the path the Revivalists were pursuing, and each for himself began to follow the bent of his own genius, the former reverting to the Italian of the Renaissance, the latter carrying his Greek culture and refinement into the everyday work of his time.

When we come to the personalities of the time we find that Cockerell formed one of a galaxy of notable men—Sir John Soane, Sir Robert Smirke, Wilkins, Basevi, Elmes, Playfair, Sir Chas. Barry, Pennethorne, Penrose, and others, all more or less true to the old classical school of art. Their work was distinguished by a sense of scholarship and distinction of style, only too sadly lacking in some of their latter-day followers. Their respect for and knowledge of architectural tradition made the solecisms of our strivers after originality impossible, while offences against good taste were comparatively few. Of the men whose names I have mentioned perhaps no one had a stronger grasp of Greek detail, or used it with more sympathetic expression, than Playfair; and none a deeper knowledge of the principles of Italian art than Barry; but in Cockerell we have a master who, at once a great artist and a scholar, drew his inspiration from both sources, combining the adaptability of the Italian with the refinement and grace of the Greek, while through it all runs the impress of the individuality of the man himself, without which no great art was ever generated.

But if we would appreciate the architectural atmosphere of Cockerell's time there is another element which should not be forgotten. He lived in a time not only of one revival but of two. The Battle of the Styles was in full swing. The competition for the Houses of Parliament had given an impetus to the revival of mediævalism, so that no sooner did Greek seem to be in possession of the field than Gothic was ready to contend for the mastery. The elder Pugin thundered his anathemas against Classic architecture, and propounded his "Contrasts" to such purpose that there was a notable band of men devoted to the so-called "National" style ready to do battle at all times on its behalf, so much so that as early as 1820 we find two churches—St. Pancras', Euston Square, and St. Luke's, Chelsea—rivals in style, though erected simultaneously. Even the classic mind of Cockerell himself was not altogether proof against the mediæval influence, for at Harrow Schools and Chapel and Lampeter College we find him trying his hand at Gothic, this even before the time of the Houses of Parliament competition, and when his mind was occupied with the restoration of the Roman Forum, the Parthenon at Athens, and the much more congenial work of designing Hanover Chapel, in Regent Street.

A propos of the rival schools, the story is told of how Stanfield the painter, being anxious to introduce Cockerell and Pugin, did so one day, and left the two to have a chat together. Afterwards he asked each of them what he thought of the other. Cockerell said, "Pugin is the most earnest and enthusiastic man in his profession, and has the greatest belief in it of anyone I have ever met." And Pugin said of Cockerell, "The man is a great artist, though I don't believe in the style he works in."

I am not, however, concerned this evening with the progress of the Gothic revival, or even for the matter of that with the Classical revival, and only call attention to it as an element, and that an important one, in the architectural life of the time in which the subject of my paper lived and worked. It is necessary to bear in mind the dual development on which I have touched when endeavouring to estimate the value of the influences at work during his career. Few of the men of his school altogether escaped the mediæval fever, and fewer still the pseudo-classic of the Revivalists, while all through the years ran the bitter strife of Goth and Greek, to culminate in the designs for the Government Offices in the great competition in 1857. The result of the latter was typical of the ding-dong of party warfare. Won by a Classic design, the decision was overturned in favour of a Gothic building, to be reversed again in its turn by the will of an imperious Cabinet Minister—final result, Sir Gilbert Scott's Home and Foreign Offices as we see them to-day in Whitehall. Into the merits of such a proceeding it is not, of course, my purpose to enter, but one can imagine the chaotic state of things then existing, and the war of pens and pencils that must have raged around generally, the upshot of the Government Office competition adding but fuel to the flames.

Before noticing his works a few biographical notes may be interesting, for the details of which I am principally indebted to the "Account of the Professional Life and Character of the late Professor Cockerell, R.A.," by Sydney Smirke, in the TRANSACTIONS 1863–64, and to a paper by Professor Aitchison, R.A., published in the TRANSACTIONS 1889–90.

The former was read at the ordinary general meeting of the Institute on November 16th 1863, two months after Cockerell's death, and was illustrated by a large number of his drawings exhibited in the room. The latter, not having been read at a Sessional Meeting, may have escaped some of the notice it so much deserves. Both were written by personal friends of the master, Professor Aitchison happily describing himself as "one who (as a student) sat at his feet," and yet I am afraid that to many of the present generation of architects, and more especially to the younger of them, his name is little more than known, and his works hardly at all.

Charles Robert Cockerell was born in 1788, and was the second son of Samuel Pepys Cockerell, himself a well-known architect, and surveyor to the East India Company. Part of his education was received at Westminster, and the great school ought to be proud of its pupil. His professional training was begun in his father's office, where he remained for four or five years, afterwards entering Sir Robert Smirke's office as an assistant. At this time Smirke was erecting Covent Garden Theatre, the predecessor of the present well-known Opera House.

By this time he was a splendid draughtsman, and his father being anxious he should begin his foreign studies, in April 1810, when in his twenty-second year, he started—as Professor Aitchison tells us—from Plymouth on a 12-gun lugger, the "Black Joke." It was an eventful voyage. His vessel captured a prize, met with French privateers in the Bay of Biscay, ran into Cadiz to deliver despatches for the British fleet, and finally landed him at Constantinople; thence he proceeded by way of the Troad and Salonica to Athens, where his accomplished mind and agreeable manners brought him many friends and ardent fellow labourers, whose names became familiar at the time to all engaged in the study of classical antiquities. Here he must have come under the spell of Greek art, which never afterwards left him. He twice thoroughly explored the mainland of Greece and its islands, returning again and again to Athens. Then he visited Sicily, and from there passed to Italy, staying at Naples, Florence, and Rome. At the latter he made many friends, whom he retained all through his life, amongst others Ingres, the great French painter, who made a beautiful portrait of him in pencil, reproduced in Vol. VI. N.S. of our TRANSACTIONS. On his way home from Italy he spent some time in Paris, and finally returned to England after many adventures which in these more prosaic days read like a romance, and an absence of seven or eight years, four of which were spent in Greece. He studied incessantly, made notes and sketches and restorations, many explorations of temples and other buildings and particularly of Greek sculpture, and generally stored his mind with the knowledge he afterwards gave to the world in his famous lectures and books and still more famous works. His energy was untiring, his enthusiasm unbounded, no hardship or discomfort keeping him away from anything worth visiting. As a consequence he became an authority on Greek archæology, his skill and knowledge making his restorations of Greek buildings as valuable as they are beautiful. He returned home with a great reputation to receive the applause and congratulations of his many friends, to work out the results of his antiquarian researches, to assist in arranging the sculpture in the British Museum, and to begin under the happiest auspices his architectural career.

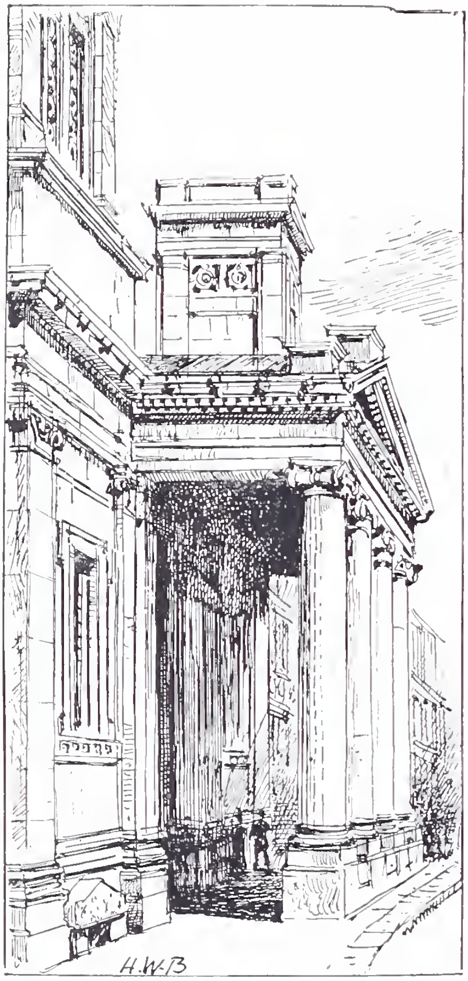


FIG. 1.—HANOVER CHAPEL.
From a Sketch by Mr. H. W. Brewer.

Cockerell had tried his "prentice hand" at design in Italy the year before his return home, having prepared plans and elevations for a palace for the great Duke of Wellington, an ambitious beginning, like some other ambitions never destined to be realised; but at the age of thirty we find him beginning his first real work, the Literary and Philosophical Institution, now the Freemasons' Hall, at Bristol, a design in which he had to contend with a difficult site and very limited means, but which notwithstanding is marked by that sense of proportion and purity of detail which afterwards became such marked characteristics of his later works. After some additions to Harrow School and Bowood for Lord Lansdowne we come to his first work of primary importance, Hanover Chapel, in Regent Street. The formation of Regent Street, in itself a grand idea, was somewhat disappointing from a purely architectural point of view; the one redeeming feature, which lent an air of distinction to its northern end, was Hanover Chapel. In this work Cockerell distinguished himself at once by his originality of plan, design, and refinement and delicacy of detail, though hampered by the ecclesiastical tradition that the altar must stand at the east end of the church, a condition which forced him to enter his building, so to speak, at the wrong end, by the necessity of providing for more people than could conveniently be accommodated on the site, a condition which forced him to burden the interior with two galleries one above the other, by the fact that the street houses abutted against the church on either side, and so left him only one front for any kind of architectural treatment. Though hampered by all these drawbacks, the result was an artistic triumph for the architect, who produced a scholarly building of great dignity and beauty both externally and internally. He paid the utmost attention to every

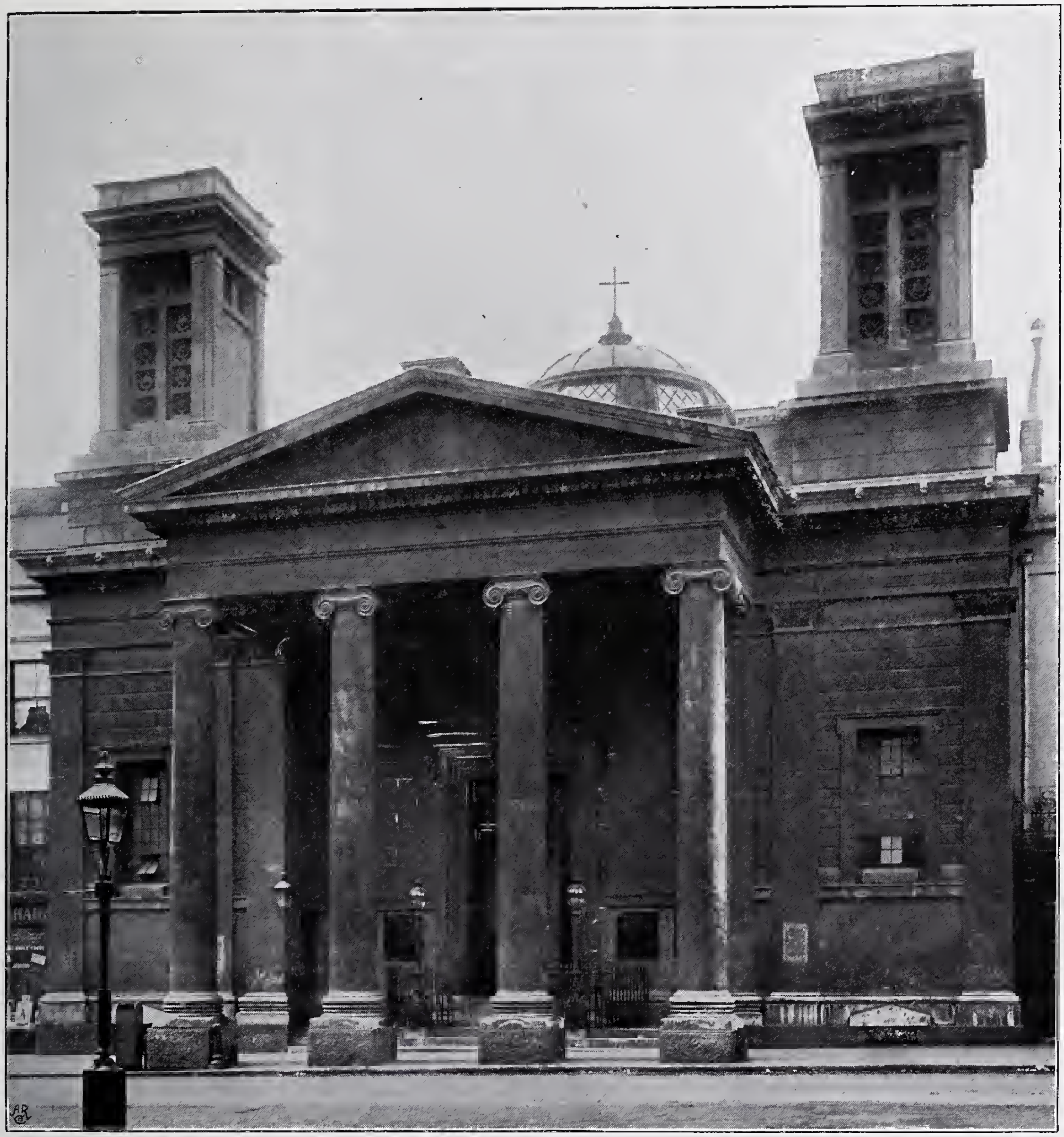


FIG. 2.—HANOVER CHAPEL, REGENT STREET, NOW DEMOLISHED. C. R. COCKERELL, ARCHITECT.

detail; in design it was a veritable revelation in the adaptability of Greek art to modern purposes, not a mere reproduction of the temple form. It attracted much attention at the time, and admiration from that day to this. Alas that, to the shame of all concerned in the transaction, the craving after ground-rents should, in these latter days, have become so powerful as to sweep it all into oblivion! Poor Cockerell, much of his work has been tampered with, some of it altered almost out of recognition, but none of it ever so unkindly treated as Hanover Chapel. We have lost the work of a great master of our craft, and in its place reigns an emporium of trade. 'Tis said that "nothing is sacred to a sapper;" after this we may well add, "or to a speculator."

Hardly was Hanover Chapel completed than there came to Cockerell a commission that must have been very dear to his heart; this was neither more nor less than a reproduction of the Parthenon, and of the same size—namely, the National Monument on the Calton Hill, Edinburgh, a work in which he was associated with Playfair of Edinburgh—the Scottish Cockerell, if I may be allowed to call him so. The two were congenial spirits, and to each his share in this noble Valhalla must have been a labour of love. But again an unkind fate stepped in to snatch away the glory of completion; again "vaulting ambition o'erleaped itself," and the monument to-day looks more like the ghost of the Parthenon that is than the reality of the Parthenon that was. Nevertheless the spirit of the great Greek Temple is there in the fragment on the Scottish hill; its exquisite proportion, its beauty of detail, show how true was the architects' appreciation of Athena's majestic shrine. They were fortunate also in the magnificent stone in which it is worked: as sharp and clean as on the day it was set up, it shines in the clear air and the northern sunlight like a veritable production from Pentelicus itself.

Cockerell's practice went on increasing; after the manner of young aspirants for architectural honours, then as now, he engaged with more or less success in several competitions, amongst others for the Cambridge University Library and Museum. As a competition it partially failed and had to be done all over again. It was a limited contest, the competitors being Cockerell, Wilkins, Decimus Burton, and Messrs. Rickman and Hutchinson. In a note attached to the list of his drawings exhibited at the Institute in November 1863, and published in the TRANSACTIONS, we are told that Cockerell's design was highly approved, but in consequence of his departure from the conditions laid down in the programme which fixed the axis of the proposed building Messrs. Rickman and Hutchinson's design was chosen. Cockerell, it is true, did partly make a design on the required lines, but in his more finished design he took advantage of the width of the site and filled the ground so as to get the quadrangle nearly 100 feet square, instead of 100 feet by 60 feet, as the conditions made it. As we can quite understand, this gave rise to many criticisms on Mr. Cockerell's and Mr. Rickman's designs, and a number of pamphlets were published setting forth their comparative merits. In the end the same parties were invited to compete again, though in the interval the Theatre required in the first competition had been executed in another part of the University; it was therefore not required in the final competition. As a result Cockerell's design was chosen, but the north wing only, as we now see it, was proceeded with. Read between the lines all this sounds most unsatisfactory; doubtless there was much heart-burning over the affair at the time. Decimus Burton and Wilkins seem to have been out of the running, and no doubt their views thereon would be instructive; as it is, Cockerell's design was never fully carried out, so that the whole thing must have been a comparative failure, which is the more to be regretted if one may judge by the portion actually done. During the "goings on" at Cambridge, however, he was engaged on the Westminster Insurance Office, now the office of the *British Medical Journal*, in the Strand. This was the first of a notable series of buildings for commercial purposes which perhaps more than any others show the individuality of the man. It has all the characteristics we come to recognise as typical of its designer, and which were developed with such striking success in the Sun Fire Office in the City, and the Liverpool and London Insurance Buildings in Liverpool: the decorative use of the order—with an attic over it—round-headed windows with little iron balconies set on their cills; the peculiar treatment of the gabled front towards the street, worked out with so much effect afterwards in the Bank of England at Liverpool. The whole was permeated with that wonderful sense of proportion, that distinction of style and Greek elegance of detail which Cockerell made peculiarly his own; while seeking his inspiration from Greece rather than from Italy, while clothing all with the mantle of Greek refinement rather than with the luxury of the Renaissance, he never forgot he was designing buildings for modern purposes, nor to show how pliable was the style he made his own.

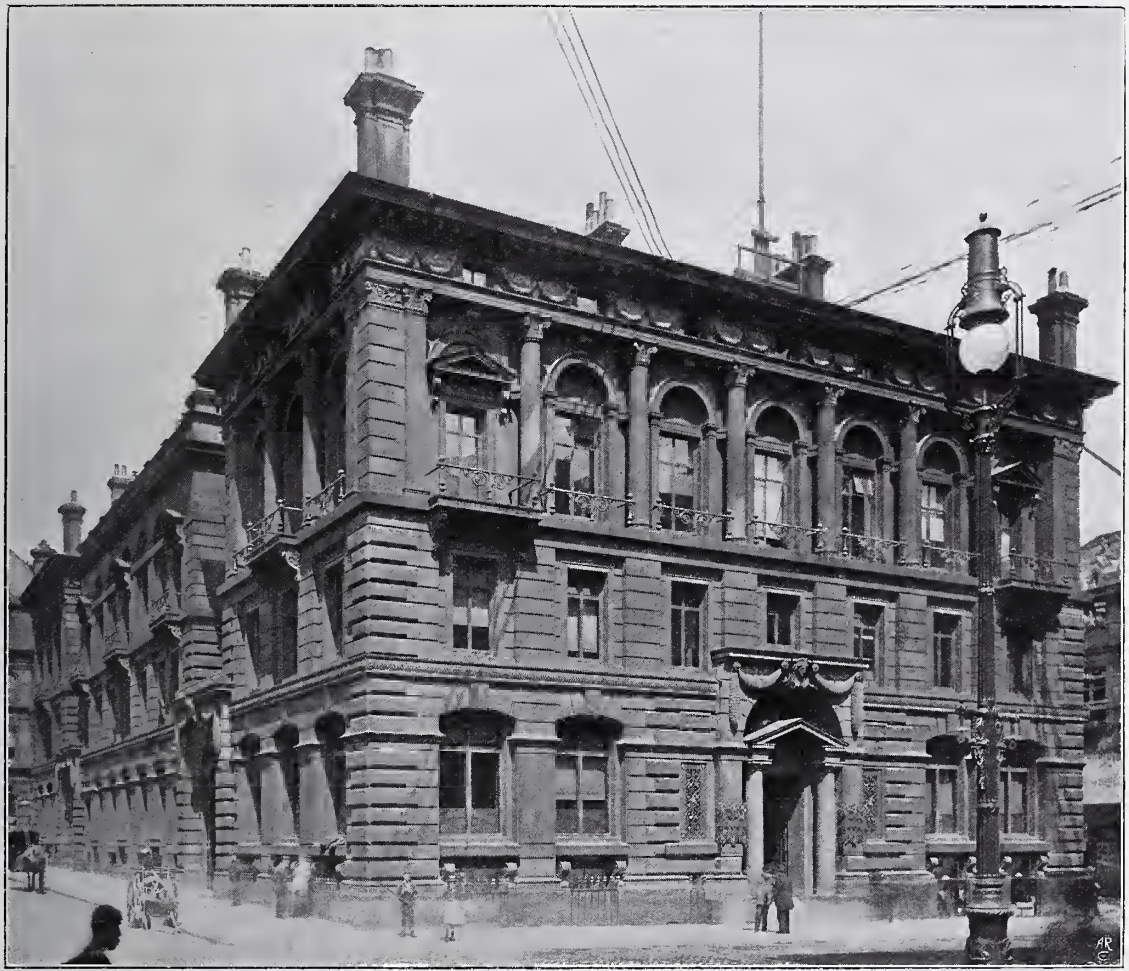
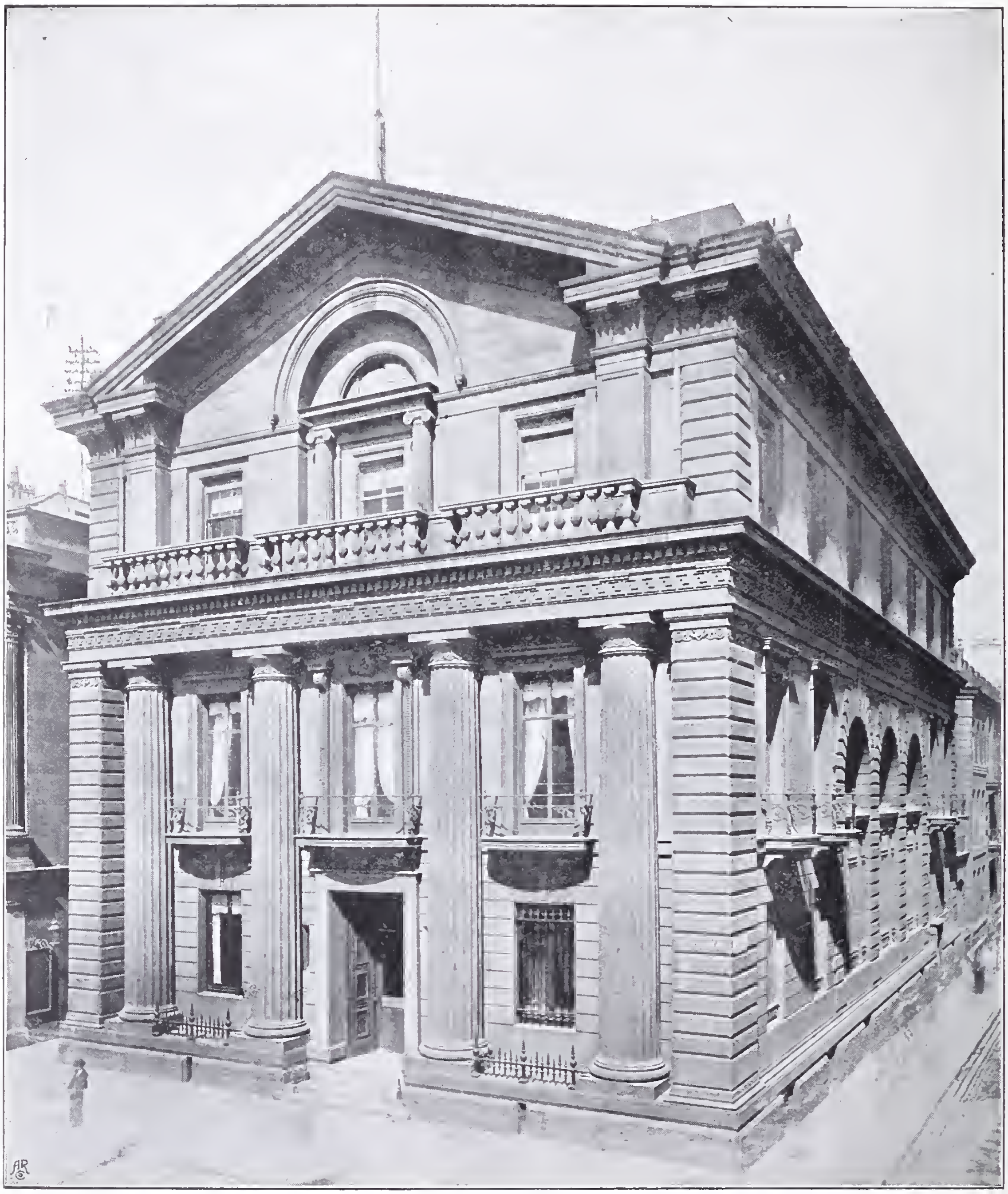


FIG. 3.—LIVERPOOL AND LONDON INSURANCE BUILDINGS, LIVERPOOL. C. R. COCKERELL, ARCHITECT.

Another matter on which he bestowed much study was the masonry of his façades. The size and proportions of the stones were made to play a subtle part in the harmony of the general design. He seems to have been fond of big stones, if one may judge from examples in Hanover Chapel and the Taylor building at Oxford; but apart from mere size his angle quoins and rusticated courses are most cunningly devised to assist the general scale and expression of his elevations. The importance of such a point I need hardly enlarge upon, but as just at present there seems to be a sort of efflorescence of rustication in latter-day architecture, permit me to commend to the heedless of such matters a careful study of the fronts of the Sun



From a Photo. by Bedford Lemere & Co.

FIG. 4.—BANK OF ENGLAND, LIVERPOOL. C. R. COCKERELL, ARCHITECT.

Fire Office, or the Insurance Buildings in Liverpool, where they will see how these features may be used with reticence but with power.

These commercial buildings are worthy the attention of all students, more particularly the Insurance Building at Liverpool; in this the Dale Street front is one of the finest pieces of design in modern classic, and the staircases in the flank towards the Exchange are probably among the most interesting examples of the adaptability of the style to be found anywhere. Dearly as Cockerell loved Greek he was never its slave, but fashioned it to his purpose with the hand and eye of a master. In this connection it is to be for ever regretted that his work at the Sun Fire Office in the City has been tampered with to the extent it has. One must recognise that as the business of an office increases the premises must also increase with it;

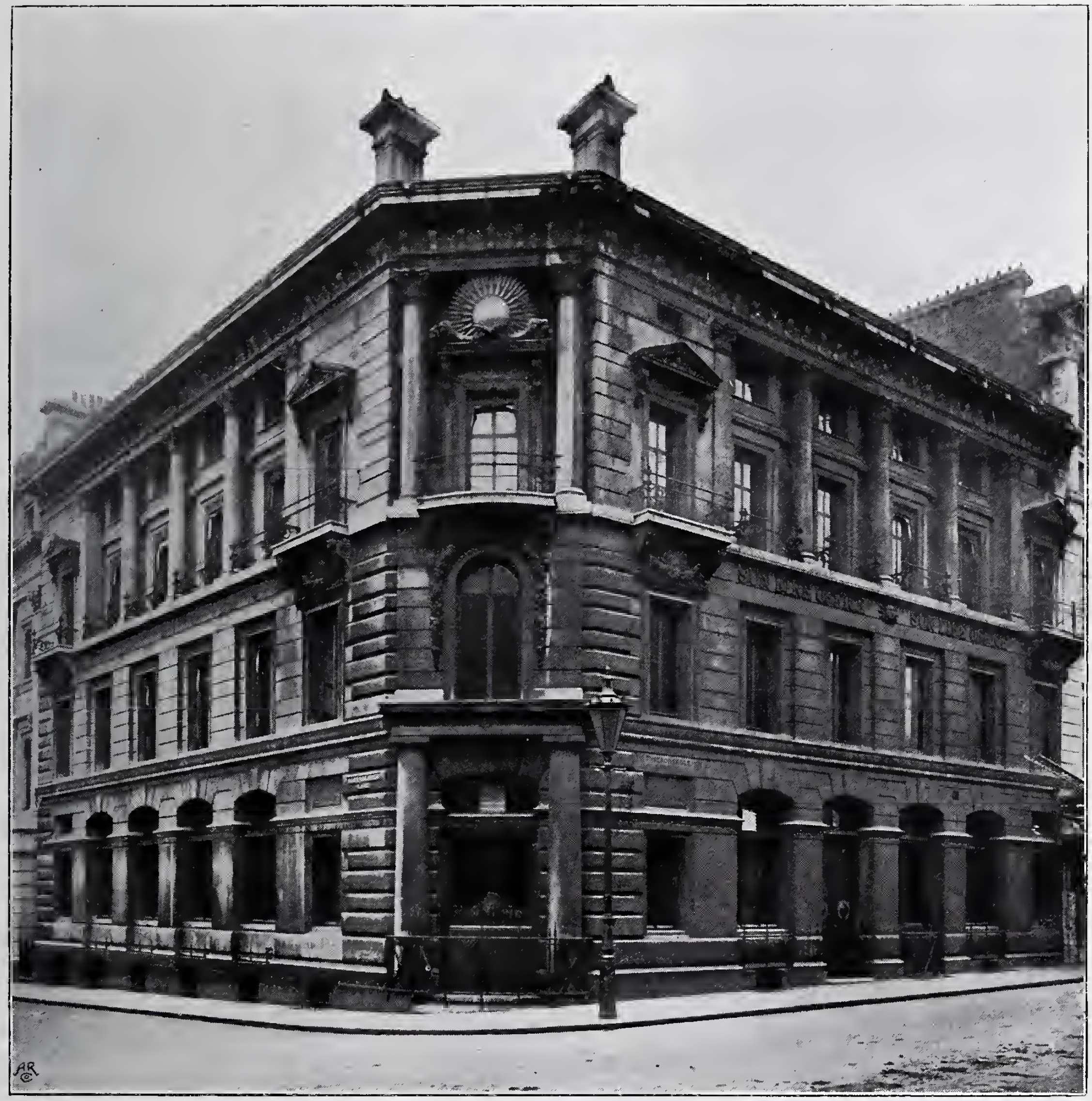


FIG. 5.—SUN FIRE OFFICE, THREADNEEDLE STREET, PREVIOUS TO RECENT ALTERATIONS. C. R. COCKERELL, ARCHITECT.

one must also recognise the great difficulty the task of the alteration of such a building must have been; but surely this might have been accomplished with a little more regard for the work of such an artist as Cockerell. The whole of the proportions of the building have been altered, instead of leaving the original work alone, to speak for itself, and designing the addition in harmony with it. It may be urged that necessity required the accommodation of an extra story in the height; truly—but was it not possible to effect this without the mutilation of the whole design? One may be thankful now that we have the Dale Street front of the Liverpool building, recalling the vanished motive of the Sun Fire Office. Built during the last decade of his life, this beautiful and artistic building is, with another I shall notice presently, the work he will be best remembered by, and worthy monuments they both are of his skill and genius.

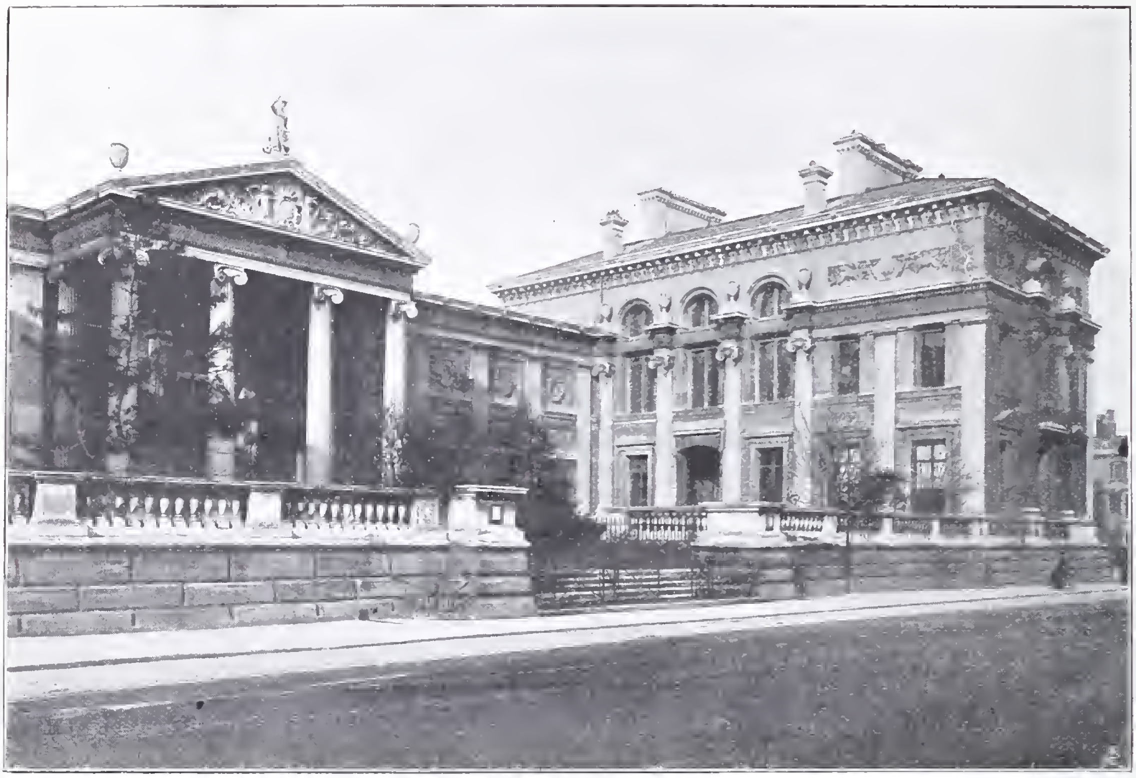


FIG. 6.—THE TAYLOR AND RANDOLPH BUILDINGS, OXFORD; SOUTH-WEST VIEW. C. R. COCKERELL, ARCHITECT.

The other work I refer to, the Taylor and Randolph buildings at Oxford, won in a competition, was carried out by Cockerell during the years 1841–1846. It has the advantage of a fine open site, with the main front in the form of the letter E. In the centre is a beautiful Ionic portico connected by galleries of moderate height to loftier wings at each end. The return flank of the east wing facing St. Giles's becomes a front of great importance and is adorned with excellent sculptured figures. The Ionic order of the portico, the principal feature of the semi-quad-like front, becomes purely decorative in the wings, which are crowned with an upper story and main cornice in Cockerell's most characteristic manner. Personally I regret that he seems to have felt the necessity of cutting the main cornice of the order in the wings, presumably on purpose to get lofty windows to the libraries therein; to me the treatment seems to disturb the repose of an otherwise almost perfect composition, a veritable architectural gem, in every way worthy of the great University town, and to my thinking artistically superior to anything that has been done there since. We must remember this was in the early forties, when the Gothic revival was gathering force every year, so that we cannot but admire the courage of the man, and his belief in his "style," as Pugin called it, when we find him sending down to Mediæval Oxford, of all places in the world, a design so essentially Greek, and which must in some quarters have been deemed so out of sympathy with all the local architectural traditions; and yet the result justified not only his courage but his faith. It bespeaks the artist and the scholar in every line, and proclaims him a consummate master of his craft. Though not a large building as public buildings go, it has a quiet dignity which is beyond praise, enabling it to hold its own in a city renowned for its architectural monuments. We see in it the work of its architect at his very best. We feel all the grace of its Greek refinement both in proportion and in detail, the appropriateness of its sculpture and carving, the judicious contrast of plain surface and richness of effect, with all the wealth of knowledge and skill, and yet that reticence of design which goes to make an architectural work of the highest merit. Again, as in his commercial offices, this Taylor building is no mere copy of Greek features doing duty for lack of originality, but, on the contrary, it demonstrates once more the adaptability of the style to the purposes of modern requirements.

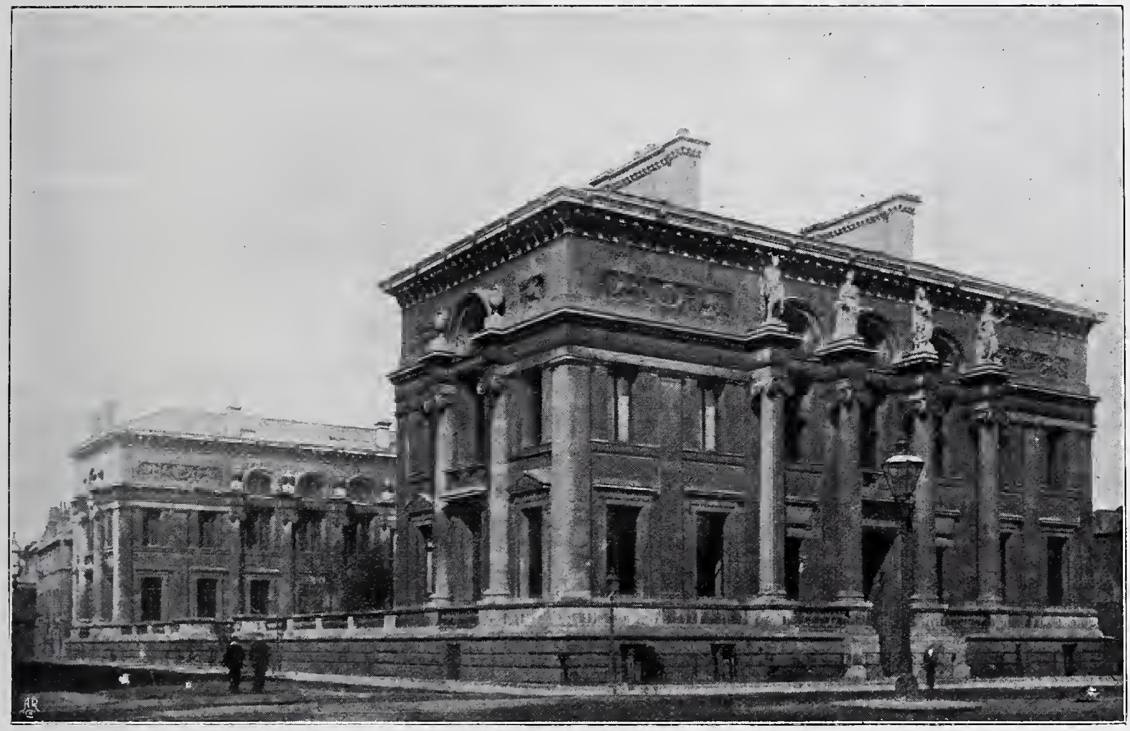


FIG. 7.—THE TAYLOR AND RANDOLPH BUILDINGS, OXFORD; SOUTH-EAST VIEW. C. R. COCKERELL, ARCHITECT.

Besides works solely his own Cockerell was called upon to complete two public buildings of the first importance left unfinished at the death of their architects. The first was the FitzWilliam Museum at Cambridge, of which Basevi was the architect. At the time of his death in 1845 the exterior was finished, the internal work hardly begun. Cockerell completed the hall and staircase, and much of the detail of the galleries is from his hands. The entrance hall was afterwards remodelled by Mr. E. M. Barry, and so comparatively little of Cockerell's work remains there now; but we can still tell where the one leaves off and the other begins.

The second building is St. George's Hall, at Liverpool, the noblest monument of the Classic revival in England. It was designed, as you know, by the younger Elmes, and commenced when he was only twenty-seven years of age. It was a stupendous undertaking for a young man who had had no experience of work on such a scale, so that it is little wonder that the consequent labour and anxiety, added to indifferent health, should in the end have told on his constitution. The strain becoming too great, it became necessary to try what wintering out of England could do for him. Alas! it was too late. He died in Jamaica towards the end of 1847.

The building had been in progress about six years; the shell only was completed, and all the internal finishing remained to be carried out. Elmes had more than once consulted Cockerell during the progress of the work, and had even nominated him to look after it during his visit to Jamaica; what more natural, therefore, than that he should succeed him as architect? It was a choice honourable alike to the memory of Elmes and to the Corporation of Liverpool. Cockerell was probably the one man in England at the time who could have carried the noble building to such a successful conclusion. Roughly speaking we may consider the whole of the interior finishings and the sculpture in the south portico to be his work. With regard to the latter, it appears that the subject was suggested by Elmes in 1843 and designed by Cockerell. To describe the interior of this splendid building would take a paper to itself. Suffice it to mention that Cockerell, rising to the greatness of the opportunity, gave of his best to the service of the work. The magnificent decorations of the great hall, the stateliness of the courts, the Doric beauty of the northern entrance hall, and the elegance of the circular concert room on the first floor are all due to his genius. For nearly seven years he laboured at the work, with the result that the Law Courts were opened in December 1851 and the whole building completed and formally opened in September 1854. Nothing could have been more fortunate in the circumstances than that the services of two such men as Elmes and Cockerell should have been available for the building and completion of one of the most splendid structures in Europe. The elder man, doubtless delighted to find his young friend such a faithful disciple of Greek art, carried on the style so ably begun externally, and finally gave us an interior of the highest artistic value.

That it has its faults, particularly in the means of access to the great hall itself, is not to be denied; but, as Sir James Picton, himself no mean critic, says in his description of the building, "with all its defects, St. George's Hall constitutes not only the architectural glory of Liverpool, but is one of the greatest triumphs of art in modern times;" and Fergusson speaks of it as producing "an effect of grandeur unequalled by any other modern building known," and as "the culminating and by far the most successful specimen of this style of art in England, and perhaps in Europe." This was written before the completion of the Opera House in Paris or the Law Courts at Brussels, but I venture to think that for grandeur of conception, beauty of proportion, and purity of detail the English example can give its French and Belgian rivals many points and hold its own in the end, notwithstanding the cost of each of the latter was four times that of St. George's Hall.

But if this and the other works I have been noticing were triumphs for the art of Professor Cockerell, he had his disappointments, like other men, specially architects. He took part in at least half a dozen important competitions in which he was unsuccessful. Taking them in the order of time they were University College, Gower Street: the Duke of York's Column; the New Houses of Parliament; the Reform Club; the Royal Exchange; and the Carlton Club; and among his unexecuted designs were Falkland Palace, for Mr. Bruce, and sketches, made at the desire of the late Prince Consort, for the South Kensington Museum.

The beautiful perspective of his design for the Royal Exchange, drawn by himself, and his design for the Houses of Parliament are now the property of the Royal Institute, having been courteously presented by his son, Mr. S. P. Cockerell. In the Houses of Parliament it is interesting to observe how his classical proclivities struggle through the stipulated condition that the building should be of Gothic or Elizabethan architecture, and we have the somewhat curious combination shown in his drawings. For all its merit, however, one is bound to admit that neither in grasp of the subject nor in plan or elevation did he approach within measurable distance of Sir Charles Barry's magnificent structure. As to the Royal Exchange, it is pleasant to recall the words of Sir William (then Mr.) Tite, the successful competitor. In speaking of Cockerell's design he said "it was a design with four towers, drawn by Mr. Cockerell's own hand in pen-and-ink in the style of Piranesi, and of great power and effect," and that considered "as a work of art in connection with architecture it was one of the most remarkable he had ever known"—a noble tribute from one of the competitors to another.

In this connection also it is interesting to remember the collaboration of these two men in carrying out the London and Westminster Bank in the City. We have the story from Tite himself, and it is this: The directors of the Bank wished to build new premises, but did not desire a competition in the ordinary sense. At the same time both Tite and Cockerell had excellent friends on the direction who were desirous that their friend should be appointed architect; so there were in truth two architects in competition. Tite thought this an unworthy strife for the two to be engaged in, and proposed to Cockerell that they should act as joint architects, and so put an end to the contest. Cockerell replied that it would give him the greatest satisfaction to do so, and the arrangement was readily adopted by the directors. The building proceeded, and in the end they were complimented by the Board for the manner in which it had been carried out. Sir William further tells us that the exterior was marked by Mr. Cockerell's hand, the interior was more particularly his (Tite's), and, though the latter had since been much changed, the characteristic style of the architecture of the exterior has been preserved in all the extensions of the Bank. That was an incident of professional life alike honourable to both men, and I am glad to have the opportunity of bringing it to your notice this evening.

Cockerell was a many-sided man, and his work was many-sided as well. Besides being an accomplished architect and a brilliant draughtsman he was a learned archæologist and much of a sculptor. Indeed, as to this last it becomes a moot point as to whether, if he had not been an architect, he might not have become a sculptor. In his researches abroad, in his relaxations at home, he studied this subject more than most men of his time, especially in its relation to architecture. To his energy we owe the discovery of the Egina and Bassæ marbles, the story of which, had I time to tell it, is one of the most interesting in his career. His dissertation on and restoration of the arrangement of the Niobe group, in which he contended they were pedimental sculptures, created much discussion, and, if a mere architect may be allowed an opinion thereon, a discussion which did little to weaken the strength of his theory. He demonstrated the proper purpose and position of the colossal statues at the Temple of Jupiter Olympius at Agrigentum, proving them to be caryatides forming an upper order or attic in the interior and supporting the main timbers of the roof, as set forth in the supplemental volume of Stuart and Revett's work.

He drew the figure with quite remarkable power and expression; he managed to grasp the broad monumental style of the great Greek age he loved so fondly and understood so thoroughly; as an instance of this, look at his design for the pediment of St. George's Hall, which for vigour of composition has few equals, Elmes himself entertaining no doubt about its being "one of the finest compositions in sculpture ever executed in this country."

A propos of this pediment may I digress for a moment to note the connection of Alfred Stevens, the sculptor, with the design, about which some little confusion seems at one time to have arisen? The work, as you know, was executed by Nicholl, the sculptor, and about two years after Elmes's death—in 1849—Cockerell asked Stevens to make a drawing of the pediment for publication. He did so from the unfinished work in Nicholl's studio, and while so occupied made some suggestions for the improvement of the grouping of the figures, which, with the true sympathy of an artist for the opinion of such a man as Stevens, Cockerell adopted and had carried out by Nicholl. This drawing by Stevens is reproduced in Mr. Stannus's book on that master; it is most interesting to compare it with the original design drawn by Cockerell himself, and published in the TRANSACTIONS 1863–64.

Of a kindred nature is the ornamental carving he designed for his buildings—fine examples of which are to be found on the Taylor Building at Oxford and on the Insurance Offices in Dale Street, Liverpool.

Professor Cockerell's labours and discoveries in Greek archæology are too important and numerous for more than a brief reference in a paper mainly devoted to his work as an architect. They would take an evening to themselves and prove a most interesting and fascinating subject. If ever a man travelled with his eyes open, and not only his eyes but his mind as well, it was Cockerell. To an adventurous spirit he brought what has been defined as genius—the capacity for taking pains. He not only excavated and measured and plotted, but did so to such purpose that he became an acknowledged authority on all matters pertaining to Greek art. His researches extended over Greece and its islands, Asia Minor, Sicily, and Italy. He explored the temples at Ægina and Phigalia, at Athens and Agrigentum, at Bassæ and Delphi, Sardis and Hierapolis; in fact wherever there was anything to be discovered and knowledge to be acquired there he went, and this too at a time when the whole country was in a most unsettled condition and travelling was anything but an easy holiday trip. There were always dangers from pirates and brigands, from the obstructiveness of petty local officials, the superstitions and something more of the natives, not to speak of illness from bad weather and worse living.

Some of his discoveries are set forth in his great work on the temples at Ægina and Bassæ, in the supplemental volume to Stuart and Revett's *Athens*, and in various papers, and it is hoped some day his diary may be published under the auspices of his son, Mr. S. P. Cockerell, as it is full of interesting matter relating to his travels.

He gave much attention also to the restoration of ancient classic work, and in many splendid drawings portrayed his ideas on the Roman Forum and the Baths of Caracalla, the Parthenon, the City of Athens, the theatre and a house of Pompeii, the mausoleum of Halicarnassus, together with a tribute to architects of all ages in *The Professor's Dream: a Synopsis of the Principal Monuments of Ancient and Modern Times*, and still more particularly to Sir Christopher Wren in an elaborate "General View of His Works."

It is pleasant to think he was not without honour in his own and other countries. He was a D.C.L. of Oxford; he was elected an Associate of the Royal Academy when forty-one, a full Academician seven years later, and Professor of Architecture when fifty-two, holding the post for seventeen years, one of the most distinguished of the men who have filled the chair. Its present occupant, Professor Aitchison, who, as a student, sat at his feet in the lecture room, bears testimony to the inestimable value of the lectures he delivered and the wealth of illustrations with which they were enriched. He tells us "the lecture room was always crowded with members of the Royal Academy, and others anxious to hear him and see his illustrations. The students hung upon his utterances, and while lecturing he would often pause and presently say, 'and so on;' he had dropped the thread of his discourse, forgotten his audience and the lecture room, and was in Athens, admiring the Parthenon and communing with Pericles and Phidias; at other times he would pour out vivid pictures of the glories of Athens, Syracuse, or Rome."

Abroad he had many honours conferred upon him. He was a Chevalier of the Legion of Honour, a member of the Institute of France, of the Royal Academies of Belgium, Munich, Berne, Denmark, Genoa, Athens, of St. Luke's at Rome, and of the American Institute of Architects. When only thirty-one he was appointed surveyor to St. Paul's Cathedral, and at forty-five succeeded Sir John Soane as architect to the Bank of England. In his latter capacity he erected branches of the Bank in Liverpool, Manchester, Bristol, and Plymouth, besides the Dividend Pay and Warrant Offices, afterwards pulled down for the New Drawing Office, at the Bank itself in Threadneedle Street.

In our own Institute he was an active member for many years, and one of our most distinguished Fellows. He was the first to receive the honour of Her Majesty's Gold Medal, and in 1860 our first professional President. Of all the honoured names to be found in either list none is more illustrious than that of Charles Robert Cockerell.

Cockerell died in 1863, and was buried in St. Paul's Cathedral, which had been under his loving care for over forty years. No more fitting resting-place could there be than in the masterpiece of Wren, whom he held in the highest honour and respect. By his death the Classical revival lost its most brilliant exponent, and England one of her most accomplished architects.

As his life drew towards its close the "Battle of the Styles," to which I referred above, became, if possible, more bitter, or at least more uncompromising. Men of undoubted genius had been drawn into the ranks of the Mediævalists; the Gothic style was rampant, so to speak, over the land. Not to mention Gothic churches and mansions, we had Gothic town halls, Gothic hotels, Gothic offices, Gothic shops, and even Gothic theatres; when the competition for the building of the National Gallery in Trafalgar Square took place some of the designs were Gothic even for it, and in the greater competition for the Law Courts they were all Gothic, and though here and there throughout the country the Classic revival still held its own it must have been manifest to Cockerell that "the times were out of joint" for his beautiful Anglo-Greek. He did not live to know that the Mediæval tide had reached its height in the Strand, that, in spite of a bigger wave now and again, the ebb had begun; the strife languished; the still small voice of tolerance made itself heard, soon to be followed by the vagaries and vapourings of Queen Anne: it needed only these last—"'tis ridicule that kills"—and the exclusive reign of Gothic was over for ever.

Since then we have been slowly awakening to the greater freedom and higher air to be found in the work of men like Barry or Cockerell, and venturing to think the time appropriate for a study of what the latter did for us. I have endeavoured, however inadequately, to set before you the salient points of his art, in the hope that as whatever else the revivals did at any rate they made men think, so perhaps it may be again, and more especially with the younger members amongst us. It may also be thought instructive to contemplate the work of a great artist and scholar, if haply we may by diligence find something of the brilliant light that shone in his genius, and learn something of the great and ever abiding principles—principles not subject to the whims of fashion, but which have abided and will abide for all time, and by which he was enabled to enrich our cities with the works of art I have had the honour and the privilege of calling your attention to this evening. I am well aware there are men amongst us who knew Cockerell personally, who are more competent to speak of his work than I can pretend to be, but I yield to none of them in cherishing a sincere admiration for the man and his art, and I feel I cannot close this paper more appropriately than in the words of Professor Aitchison, who tells us that "in the roll of British architects few have brought so many titles to admiration, ripe scholarship, exquisite delineation, masterly composition, uprightness, integrity, genius, and enthusiasm, and withal the dignified and refined manners of the high-bred English gentleman." Such in very truth was Charles Robert Cockerell.

DISCUSSION OF MR. BRYDON'S PAPER.

Mr. Edw. A. Gruning, *Vice-President*, in the Chair.

Dr. A. S. MURRAY [*H.A.*], F.S.A., Keeper of Greek and Roman Antiquities at the British Museum, said he was glad of the opportunity of cordially thanking Mr. Brydon for his appreciative and most sympathetic sketch of a man whom the Institute had always honoured highly. This was the third occasion on which a distinguished member of the Institute had devoted a special paper to the life and services of Professor Cockerell, and doubtless in time to come others would follow in their steps. But he would like to add that in the British Museum also his name was held in very high respect. They remembered that by his bringing home the frieze of Bassæ in 1814 he enabled the British Museum to take its first important step towards becoming a centre of Greek art in its noblest forms, instead of, as before, a miscellaneous collection of Roman and Græco-Roman sculpture. It was no fault of Cockerell's that two years previously, in 1812, the two famous groups of Ægina statues were lost to the Museum. Cockerell had helped to find them, and subsequently published them with most scholarly care, and in a splendid form. By his personal influence and exertions, the Government of the day had undertaken to purchase those sculptures at any cost, and it must have been a sore trial to a man of his patriotic spirit to see them ultimately go to Munich, owing to the blunder of an agent employed by the British Government. Two years later the Museum made its next great acquisition—the greatest acquisition ever made by any museum—the Elgin Marbles. Then followed at intervals the beautiful Nereid Monument from Xanthos, the remains of the Mausoleum at Halicarnassus, and of the Temple of Diana at Ephesus, to say nothing of the magnificent series of sculptures brought home by Sir Henry Layard from Assyria. Professor Cockerell was thus the pioneer of a movement which had placed the Museum in the front rank—a movement which they hoped was not yet exhausted. Some years ago he (Dr. Murray) had the advantage, thanks to Mr. Pepys Cockerell, of having in his charge in the Museum several portfolios of drawings, together with certain sketchbooks used by Professor Cockerell when travelling in Greece and the Greek Islands and in Asia Minor. Some of the drawings in the portfolios served as studies for the illustration of Cockerell's great work on the Temples of Ægina and Bassæ. Mr. Brydon remarked that the restoration in one of the sketches looked a little empty, and that Professor Cockerell had made a design for filling it up. At Munich there were a great number of fragments of statues from those two pediments, which had never been assigned to any place. Many attempts had been made to restore them on paper, but on the whole they were still content with Professor Cockerell's sketch, leaving those figures as they were. As regards the Niobe group, it struck an English visitor to Florence as peculiar to find hanging upon the walls of the Uffizi a sketch of Cockerell's proposed arrangement of the Niobide statues in the form of a pediment with a long description in Italian, the statues themselves being placed in anything but a pedimental form. As Mr. Brydon had indicated, there had been considerable discussion as to whether those statues were originally designed for a pediment; but for a good many years now no one of any pretensions in these matters thought of accepting anything else than Professor Cockerell's design. They had in the Museum many interesting and useful sketchbooks of architects who had travelled in Greece towards the end of last century or the beginning of the present; but as a rule they differed from those of Professor Cockerell in that they lacked that element of distinction which apparently was inseparable from everything he put his hand to. He had been told by one who spoke from experience that Professor Cockerell, always ready to take any amount of trouble when his opinion was asked on some new theory of Greek architecture or such like, had the rare gift of making the recipient of his opinion almost believe that he had found it all out for himself. He should like to add the personal testimony of one who was exceptionally qualified to give an opinion—viz. Professor Bötticher, whose *Tektonik der Hellenen* was probably the most learned and most ingenious treatise that had ever appeared on Greek architecture. It must be getting on for thirty years since he came to London, when he was already an old man; but he (Dr. Murray) well remembered finding him in a state of intense delight because of what seemed a strange coincidence—there was hanging in his room, at the house where by chance he had gone to stay, an engraving of the Acropolis of Athens as restored by the man whom of all men of his generation he admired, Professor Cockerell. It gave him much pleasure to propose a vote of thanks to the reader of the Paper. He had been particularly glad to be present on an occasion when the services of a truly great man had found so genial an exponent as Mr. Brydon.

Mr. H. HEATHCOTE STATHAM [*F.*], in seconding the vote of thanks, and expressing the interest he felt in the Paper, observed that there could be no better use to put their meetings to occasionally than to make them an opportunity for reviving the recollection of the achievements and the genius of some eminent member of former days. Such Papers were particularly interesting, as carrying them back to a time when architecture was viewed in a very different light from what it was now—at all events, by the younger men of the present generation. Which was right he did not pretend to say; but it was interesting to go back to a time when scholarship in Greek detail, and the application of it to modern buildings, was considered to be one of the highest objects to which an architect could give his labour and his talents. A great many of Professor Cockerell's buildings tended to show that though one might think that that revival or application of classic detail was illogical more or less, nevertheless there was a pleasure in it which could not be denied, and that it had had a very great influence in refining the taste of architects and inducing them to give the greatest possible study to the detail of their buildings. One of the buildings of Professor Cockerell's referred to by Mr. Brydon—viz. the branch of the Bank of England at Liverpool—he considered the most beautiful thing Cockerell had ever done. The photograph (p. 356) hardly gave a good notion of it, because of the distortion of the perspective. A view taken directly in front would give a better idea. The Doric order on the front of the building was treated on a very large scale, with the greatest refinement in the lines of the columns. This might be said to be an illogical application of the order; nevertheless, it was delightful in effect. Then, round the corner one found the flank of the building treated in quite a different way; the arched windows with immense quoins all gave the idea of a bank, and at the same time conveyed the impression that this was the flank of the building; one got the state view of it in the front and the practical view at the flank. At that time there was this result, too, from that view of the architecture: it was the time of the great classical stylists—Donaldson and Cockerell in England, and Lesueur in France; architects whose minds were full of recondite learning about the architecture of the past. That sort of man had rather gone out now. "There were giants in those days." They were now occupied, generally, in more practical problems. Another thought, suggested by the Taylor and Randolph Buildings at Oxford, was that no matter to what detail and style a man might be bound, if he had a bold, grand, original general idea he would make something of it. Looking at the general design, with the low building in the centre and the two great blocks returning at right angles on each side, one saw that such an idea might be worked out in half a dozen different styles, but still it would be Professor Cockerell's idea, and still it would be great. He sometimes thought it would not be bad practice to set their students to translate celebrated buildings into other styles, to see what they could make of them by subordinating the details of the general idea. He (Mr. Statham) had grown up under the shadow of St. George's Hall, Liverpool, and all that Mr. Brydon had said about that building had been particularly interesting to him. His first recollection of taking an interest in architecture was when, at eight years of age, he was taken over the works as one of a privileged party, and saw the big drums of the columns lying on the ground. There were, he thought, one or two misconceptions about the relative parts Elmes and Cockerell took in it. The whole conception of the interior, with the deep arched recesses between the columns, was Elmes's; it was said, he believed, that he dashed off the perspective sketch of it in a fit of genius in twenty-four hours. He remembered particularly that, in Elmes's correspondence with Rawlinson, there were some remarks as to how he was to treat the capitals of those columns, so he must have designed the columnar part of the interior. Mr. Brydon referred to the fact that the building was to be used as a concert-hall as an idea coming afterwards; but it was the other way about. Liverpool used to have a triennial musical festival which was held in a church. The church not proving large enough, it was resolved to build a hall to be used for these musical festivals, and that was what St. George's Hall was intended for. Elmes, however, knew nothing about music, and he proceeded to design the building with a view to his own architectural glory. He conceived the splendid idea that the two courts should be at each end of the great hall, and have a vista right through from court to court. But it became evident that this would never do for a concert-hall, and that the large organ would intervene. Elmes remarked angrily, in regard to this point: "Do you think I have made my hall as a case for your organ?" Several designs were made to get over this difficulty. A relative of his (Mr. Statham's) made a design in those days showing the organ grouped into two masses on each side, so that the vista could be kept. That, however, would never have done for a concert-hall, because part of the sound would have escaped into the courts, where it was not wanted. Ultimately Professor Cockerell made one of the finest things in the hall—the design for the present organ case, which was worth study. There was a great deal of fine detail about the front part of it, but the finest feature was the way in which he had treated the immense square wooden pipes, making them stand round like a circle of giants, forming a background to the metal pipes in front—one of the finest conceptions for an organ case that had ever been made. Speaking as a musical man, he entirely corroborated what Mr. Brydon said, not only about the beauty, but also as to the admirable acoustic properties of the small concert-hall—the best room he had ever been in for music on a small scale. On the other hand, it was a judgment on Elmes that the large hall was probably, on acoustic grounds, the worst concert-room in the kingdom. That came of designing a building without thinking of the purpose it was to be designed for. Another point in the decoration of the hall was the exceedingly fine and rich bronze folding-doors or gates which formed the entrances at two or three points. No doubt those were Professor Cockerell's design; as specimens of classic metal design they were very fine; he knew few modern things of the kind equal to them. At the end of his Paper Mr. Brydon had coupled the names of Professor Cockerell and Sir Charles Barry. He could not help wishing that some other member would presently follow the example Mr. Brydon had set, and give the Institute a Paper on Sir Charles Barry and his work. It had been a painful feeling to him to find very often that the younger generation of architects had almost forgotten Sir Charles Barry. He therefore ventured to suggest, as an admirable subject for a future Paper, the genius and works of Sir Charles Barry, to supplement and form a pendant to the excellent Paper they had had that evening on Professor Cockerell.

Mr. W. M. FAWCETT, M.A. [*F.*], said he had but little acquaintance with Cockerell's works, but one or two he knew very well. One was the University Library at Cambridge, a building very striking in itself, but not one in which the architect had been treated with full justice—that is to say, he had made a design for a large building, but only a very small piece of it had been carried out. As regards its accommodation for books, it was often remarked in Cambridge that the cost for a place for a book was exactly 10*s.*; the building cost about £30,000, and it would only hold 60,000 books. Not many libraries could be built on that scale. All sorts of schemes had been devised for adding to the book accommodation, but these more or less spoilt the design; books, however, went on increasing every year, and room had to be found for them. At the Fitzwilliam Museum, where Cockerell came in after Basevi's death, he made one or two striking alterations. Basevi had made a pediment in front with a flight of steps up to it, and then, on getting into the hall, a descending staircase immediately in front. Cockerell, thinking this arrangement unsatisfactory, made a central staircase to go up, and the two wings to go down. A great improvement brought about by Cockerell was the change in the material of the large columns in the centre. Basevi had meant these to consist of an iron core with a covering of scagliola. Cockerell thought such an important building ought not to be finished in that way, but that the columns should be of granite; and he wanted about £900 for the four columns. There was a great agitation in the University about such extravagance; it was said no one would know whether they were scagliola or granite. However, it was carried in Cockerell's favour by one vote, and thus succeeding generations reaped the benefit of it. On entering the building one's attention was immediately arrested by these magnificent columns—they had a very striking effect.

Mr. R. PHENÈ SPIERS, F.S.A. [*F.*], referring to the vestibule at the FitzWilliam Museum, said that thirty years ago he happened to be with the late Sir Digby Wyatt, who was asked to devise some scheme for increasing the width in front of the staircases leading to the upper and lower galleries. He asked Mr. F. P. Cockerell to lend him his father's drawings, if he had any, and these drawings came into the office. When Sir Digby Wyatt noted the extraordinary care with which the staircase had been set out by Professor Cockerell—every step drawn with a slight curve, so that from whatever point of the hall one went the step presented itself to the tread—he (Sir Digby Wyatt) was so impressed that he positively refused to alter it. Ultimately he suggested that under the portico, which served no purpose whatever, should be brought out a projecting bay of the width of one of the intercolumniations, so as to leave the staircase intact. He (Mr. Spiers) was sorry to say that did not meet with the approval of the University authorities, and shortly afterwards they asked Mr. E. M. Barry to advise them on the point. He, warned probably by the fate which befell Sir Digby Wyatt's advice, recommended the alteration of the staircase. It passed away, and now they had a very commonplace and ordinary arrangement, with the luxury of marbles, which, he was afraid, did not compensate for the loss of Cockerell's work. What struck Sir Digby Wyatt most was the extraordinary way in which the ceiling was set out. On examination of the drawings, which were made to a large scale, it was found that there was scarcely a horizontal line in them. Professor Cockerell probably had noticed the optical illusion formed by the tendency to sink in the centre of the flat portion of a ceiling, and he tried to correct this by slight curves, imperceptible to the ordinary eye, in order to give just that subtlety of aspect which would add to its beauty. As the ceiling was oblong on plan, with a dome in the centre and flat portions each side, it was a difficult task, and Sir Digby Wyatt was astounded by the great pains taken and calculations made to produce the refinement required. The ceiling, which was, he thought, still in existence, showed that Professor Cockerell had attempted in that building to bring in that subtlety of line which was found in the Greek buildings of old. There was another incident respecting Professor Cockerell's work which might interest members. Some ten years ago the Institute had a visit from one of its Corresponding Members, the Baron de Geymüller, and he (Mr. Spiers) offered to escort him through the City to show him some of the more prominent buildings, old and new. He took him up Leadenhall Street to look at Mr. Norman Shaw's warehouse, and coming back (it was either Saturday afternoon or Sunday—at all events, the City was quite empty), about five o'clock, when they reached the west side of the Royal Exchange, where he was taking him to see the Sun Fire Office, he noticed a carriage standing on the opposite side of the road, and a figure standing by, with his arms folded, looking at the building in question. When he got near he recognised the President of the Royal Academy, Lord (then Sir Frederick) Leighton, who had come down to the City in order to look at this building of Professor Cockerell's. He (Mr. Spiers) introduced the Baron, and Sir Frederick told him that whenever he wanted to revivify himself with the sense of the beauty of Greek work he used to come down and look at Cockerell's works.

The CHAIRMAN said that but for the lateness of the hour he would have liked to say a few words on the subject of Mr. Brydon's Paper. When a pupil he had received much kindness and much advice from Professor Cockerell—indeed no one who came in contact with him could ever forget his courtesy and kindness. As to the Sun Fire Office alterations, he passed that building four or five times a day, and always looked at it with regret. It was not only spoiled by the alteration in the architectural features, but also by doubling the length of one of the sides. It was a great pleasure to have among them that evening several members of the family of the distinguished Professor—Mrs. Frederick Cockerell, Mr. Pepys Cockerell, the son, and also, he believed, two granddaughters and a grandson.

Mr. BRYDON, in responding to the vote of thanks, expressed his acknowledgments to Mrs. Frederick Cockerell for her kindness in lending for the occasion the series of drawings exhibited which belonged to the Professor; also to Mr. Pepys Cockerell for his kindness and assistance; to Professor Simpson, of Liverpool, and the Corporation of Liverpool for the loan of several photographs; and to the University Library Committee of Edinburgh for the drawings of the Calton Hill Monument. He should like to say, with regard to Mr. Statham's remarks as to St. George's Hall, that he did not desire for one moment to detract from the glory and genius of Elmes, who designed that wonderful building; but, as they probably knew, it was the outcome of two competitions and the endeavour to unite two buildings together. There was a competition first for a concert hall, to be called St. George's Hall, which was won by Elmes when only 24 years of age. Afterwards it was found there was not sufficient money and that the building could not go on. In the meantime there was a competition for the Assize Courts, and Elmes won that also. Then came the question as to what was to be built, and how it was to be built. It ended in the Corporation taking the whole thing over, and the building was re-designed with the idea of combining the two, and the result was what they saw to-day. That was the genesis of the building. No doubt the great idea of the vista through the building was the ruling matter in Elmes's mind.

Mr. Edward W. Hudson [*A.*] writes:—

I think the younger members of the Institute especially are indebted to Mr. Brydon for devoting so much time just now to bring to notice the work of one of the "giants" connected so closely with it in its earlier days, and whose exertions on behalf of art are apt, in so utilitarian an age as the present, to be forgotten. I was surprised to see the subject of the paper recently accused of being "fastidious and wanting in decision," and it was suggested that, in partnership with Sir W. Tite, a stronger result would have been obtained. Such a sweeping judgment, without any explanation or reason, does not merit much attention. In one way a great artist is always fastidious, if by that we mean that he is dissatisfied with his greatest achievements. It may be matter of regret that so few men now have time, and, I may add, encouragement, to follow academically the mother of the arts, by the hand of archæology, which, although (as Mr. Brydon reminded us) not architecture, is a trusty and valuable handmaid thereto. The work of Professor Cockerell and of his predecessors and successors, much as we may admire its simplicity, nevertheless forms, in my humble judgment, an object-lesson in several ways: primarily that the classic revival, especially upon Greek lines, is not adapted to present-day wants; and while we may feel regret at the alterations and additions to the Professor's work made from time to time, they all point indisputably to the fact that it does not lend itself to domestic, official, and civil requirements, whatever we may say or advance as to those of an ecclesiastical nature. The fettering effect of the "Five Orders" upon plan, making it to so great an extent subservient to regularity of elevation, the restriction of fenestration by structural lines which have no constructive necessity, all point to the fact that "Pagan architecture"—the term is apt, though it may seem harsh and old-fashioned—is unsuited to modern life, or at all events is many times less suitable than the style indigenous to northern Christendom. If this be so, its perpetuation as an example for students who have to think out everyday problems of construction will not greatly help them in their work. Putting aside for the sake of argument the creed of Pugin and Ruskin, and their utter condemnation of classic work—not so very much stronger, by the way, than Cockerell and Tite's condemnation of the Gothic style—is it not by the facility they respectively offer for alteration, enlargement, and rearrangement that they must be judged? The Sun Fire Office is admittedly spoiled by the addition of a story, the original one being entirely useless for office purposes, nor could a story have been removed without destroying its proportions. Whereas, the addition or subtraction of a story to, say, Westminster Palace, or even such a building as Westminster Hospital, is neither difficult nor destructive of general effect. Can it be said that the old Post Office, St. Martin's-le-Grand, and the Hunterian Museum, Lincoln's Inn Fields, are in their altered condition and appearance satisfactory? This, I know, is a twice-told tale; but it may be necessary to bring up the old arguments once more, and they may be found outside Pugin's *Contrasts*, ably set forth *pro* and *con* by Sir William Tite in his Address to the Institute, and in Sir G. G. Scott's rejoinder in a Sessional Paper published in the TRANSACTIONS, Vol. XXI. I have some recollection of a difficulty that confronted the architect to one of the huge halls above referred to, where, from the impossibility of getting an extra room for office purposes, one was slung up on to the heavy roof trusses by means of rods.

I can hardly think that the old sentiments on design, once so powerful at the Institute, are so dead but that some members would have said a word for the style so dear to them if they had been at the meeting, unless they have come to believe that Greek and Roman in their simplicity are more suitable for English buildings than some of the styles now in vogue. The study of Classic architecture has charms of its own which all may appreciate, but which need not be studied for reproduction in the supply of modern wants, nor yet to deceive the antiquary of A.D. 3000 by finding on Calton Hill a ruin which, in the absence of legible inscription, might give the impression that it had been the site of a Greek colony.

Some quarter of a century ago, an historical sketch of the Institute's rise and progress was prepared by Mr. C. L. Eastlake, and read at a general meeting. I notice that among the great names no mention occurs of the eminent subject of Mr. Brydon's Paper; and although notices of Professor Cockerell's work, and an appreciation after his decease, are to be found in the records of the Institute, there are many to-day to whom, as Mr. Brydon said, he and his work are unknown, and by whom the records will never be seen; therefore one may hope that an account of our great dead and their works may, as Mr. Statham suggested, from time to time be given according to the precedent so happily formed; and, further, that the historical sketch referred to may be amplified, and brought up to date for the present generation of architects, so that they may find that incentive to striving after perfection which history should offer. If I may make one more suggestion, it is that the Council might consider the desirability of having the names of all past Presidents written on the wall behind the presidential chair, with the dates of their service.

THE BENDING STRESSES IN FLAT RECTANGULAR CONCRETE FLOORS.

By W. Dunn.

ENGLISH books on applied mechanics—or at any rate such as are in common use—give formulæ for the strength of flat plates, but not the theory upon which they are based. I propose to explain these formulæ, and give a diagram enabling anyone to find the approximate maximum stresses on flat rectangular plates uniformly loaded, as readily as the same stresses on simple beams.

For a flat square plate supported on all edges and uniformly loaded, the bending moment and the stresses on the plate are given as half those due to the same loading on the same plate supported as a beam at two opposite edges only.

This assumes that the opposite sides act independently; or that, while a small square particle in the centre of a simple beam is under bending stress on two opposite faces only, in such a plate there are equal stresses on all four faces as in fig. 1, where the firm arrows indicate the stresses on the beam, and the dotted arrows the additional stresses in the plate.

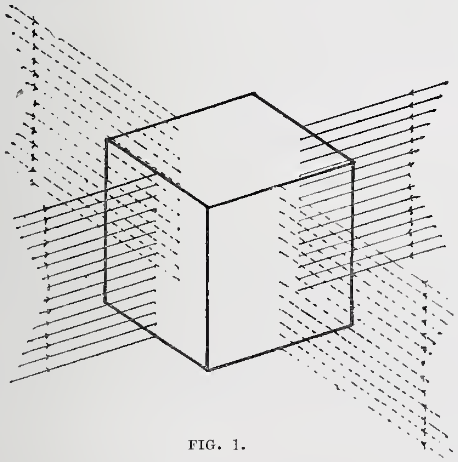


FIG. 1.

The maximum bending moment is

for the beam $\frac{\mathsf{W}\,l}{8}$[*]; for the plate one half or $\frac{\mathsf{W}\,l}{16}$.

The maximum stress per square unit is

for the beam $s = \frac{6\,\mathsf{W}\,l}{8\,b\,d^2}$; for the plate $s = \frac{6\,\mathsf{W}\,l}{16\,b\,d^2}$

or as $b = l$, $s = \frac{3\,\mathsf{W}}{8\,d^2} = \frac{3\,W\,l^2}{8\,d^2}$.

The maximum bending moment for the beam fixed at ends is $\frac{\mathsf{W}\,l}{12}$; the maximum bending moment for the plate fixed at all edges is as before, one half or $\frac{\mathsf{W}\,l}{24}$. The maximum stress per square unit for the beam fixed at the ends is $s = \frac{\mathsf{W}\,l}{2\,b\,d^2}$. The maximum stress per square unit for the plate fixed at the edges is one half or

$$s = \frac{\mathsf{W}\,l}{4\,b\,d^2} = \frac{l^2\,W}{4\,d^2}.$$

This is the result given without demonstration by Professor Unwin in *Elements of Machine Design*, p. 75 (7th ed.).

From this we also have

$$d = \sqrt{\frac{W\,l^2}{4\,s}};\quad l = \sqrt{\frac{4\,s\,d^2}{W}}.$$

Note in using these equations that the load w or W includes the weight of the plate as well as the load on it.

The maximum bending stress on the oblong rectangular plate uniformly loaded may be obtained as follows: The maximum stress is on the particle in the centre of the plate, as at 5 in fig. 2, and the tendency is to split along the long axis, *i.e.* along the line 3, 4, which we shall call L. The short axis 1, 2, we shall call B.

Consider first one elemental strip 1, 2, in the centre of the length as a simple beam of the span B, of unit width; of a depth equal to the thickness of the plate and under an uniform load equal to w_B per lineal unit. The deflection of this simple beam in the centre, by the ordinary formula, would be

$$\Delta_B = w_B\,B^4\,\frac{5}{384\,E\,I}.$$

Consider next the similar elemental strip 3, 4, in the centre of the width, as a simple beam of span L, of unit width, and of a depth equal to the thickness of the plate. This simple beam bears an uniform load equal to w_L per lineal unit. Its deflection would be

$$\Delta_L = w_L\,L^4\,\frac{5}{384\,E\,I}.$$

Now as these two elemental strips are part of the plate, the deflection at the centre 5 of each beam must be equal, and as the modulus of elasticity E

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[*] For explanation of the symbols W, l, &c., see note at end.

and the moment of inertia I are by our hypothesis the same for both beams, it follows that

$$w_B B^4 \frac{5}{384\,E\,I} = w_L L^4 \frac{5}{384\,E\,I}, \text{ or } w_B B^4 = w_L L^4.$$

Now the *total* load W per square unit is equal to the sum of these two.

$$W = w_B + w_L.$$

In other words, of the total load per square unit W, one portion w_B is borne by the sides and one portion w_L is borne by the ends.

We proceed as follows:

$$w_B B^4 = w_L L^4.$$

Adding $w_B L^4$ to both sides we have:

$$w_B B^4 + w_B L^4 = w_L L^4 + w_B L^4.$$

$$w_B (B^4 + L^4) = L^4 (w_L + w_B).$$

$$w_B (B^4 + L^4) = L^4 W.$$

$$\therefore \frac{L^4 W}{(B^4 + L^4)} = w_B.$$

We have here w_B in terms of the total load per square unit, the width and the length.

Now the bending moment of the elemental strip or beam 1, 2, is, by the ordinary formula,

$$\text{Bending moment of 1, 2} = \frac{w_B B^2}{8}.$$

Substituting the last value of w_B, this becomes

$$= \frac{W L^4 B^2}{8\,(B^4 + L^4)}.$$

To find the stress on the elemental strip or beam 1, 2 at the centre point 5 (fig. 2) which is the maximum stress at the centre of the plate, this must be made equal to the moment of resistance of the elemental strip 1, 2.

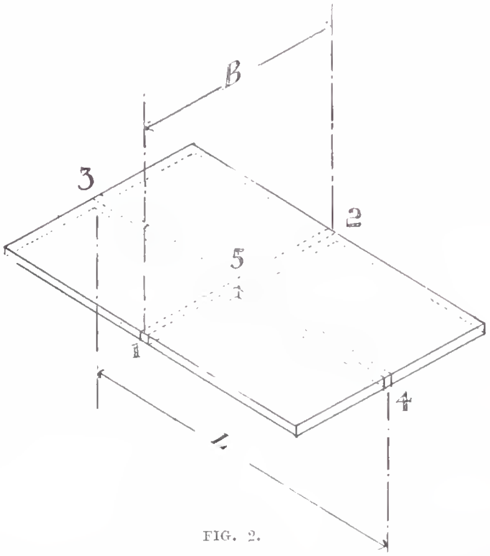

FIG. 2.

$$\frac{W L^4 B^2}{8\,(B^4 + L^4)} = \frac{s\,b\,d^2}{6}.$$

Remembering that b the breadth of the beam 1, 2, was taken as unity,

$$\frac{6\,W L^4 B^2}{8\,(B^4 + L^4)\,d^2} = \left\{ \begin{array}{l} s \text{ the maximum stress in the} \\ \quad \text{plate.} \end{array} \right.$$

This value of the bending moment corresponds with that given by Professor Rankine without demonstration on page 544 of his *Civil Engineering*. He puts it in a slightly different form, using **W** to signify the *total* load uniformly distributed (covering the whole plate). The result is that he gives the total bending moment on the length of the plate,

$$\frac{\mathbf{W}\,L^4 B}{8\,(B^4 + L^4)},$$

which must be equated to the moment of resistance of the whole section of the plate taken along its longer axis; *i.e.* to

$$\frac{s\,L\,d^2}{6}.$$

As **W** in this case equals $W L B$, we have

$$\frac{(W L B)\,L^4 B}{8\,(B^4 + L^4)} = \frac{s\,L\,d^2}{6}.$$

$$\therefore s = \frac{6\,W L^4 B^2}{8\,(B^4 + L^4)\,d^2} \text{ as before.}$$

Note that when L and B are equal—*i.e.* when the plate is square—the bending moment becomes $\frac{\mathbf{W}\,l}{16}$, and the stress becomes $\frac{3\,\mathbf{W}}{8\,d^2}$ as before.

Rankine says the result is approximate, but may be considered to involve no error of practical importance.

In the foregoing it has been assumed that the plate is of a homogeneous material, such as iron or steel. Concrete is not so homogeneous in structure, and the larger the pieces of the aggregate the less it is so. We cannot take account of this want of homogeneity save by allowing a larger factor of safety.

These formulæ involve the fourth power of numbers and are troublesome to use. I have therefore prepared a diagram by the aid of which the bending moments in rectangular plates uniformly loaded and supported on all edges may be obtained as readily as the bending moments on simple beams (see fig. 3).

To find the bending moments from this diagram,

(1) Divide the length of the plate by the breadth.

(2) Trace the vertical line corresponding to this

result from the scale at the foot of the diagram to intersection with the curved line.

(3) Read from the scale at the left-hand side the value of the horizontal through the point of intersection.

(4) Multiply the total load on the plate by the breadth of the plate, and by this number, and divide by eight. This will give the bending moment (in terms of the units employed, *i.e.* inch-lbs., foot-lbs., foot-cwts., &c., as the case may be),

$$\frac{W L^4 B}{8 (B^4 + L^4)} = \text{moment of resistance} = \frac{s L d^2}{6},$$

from which the stress or thickness may be found.

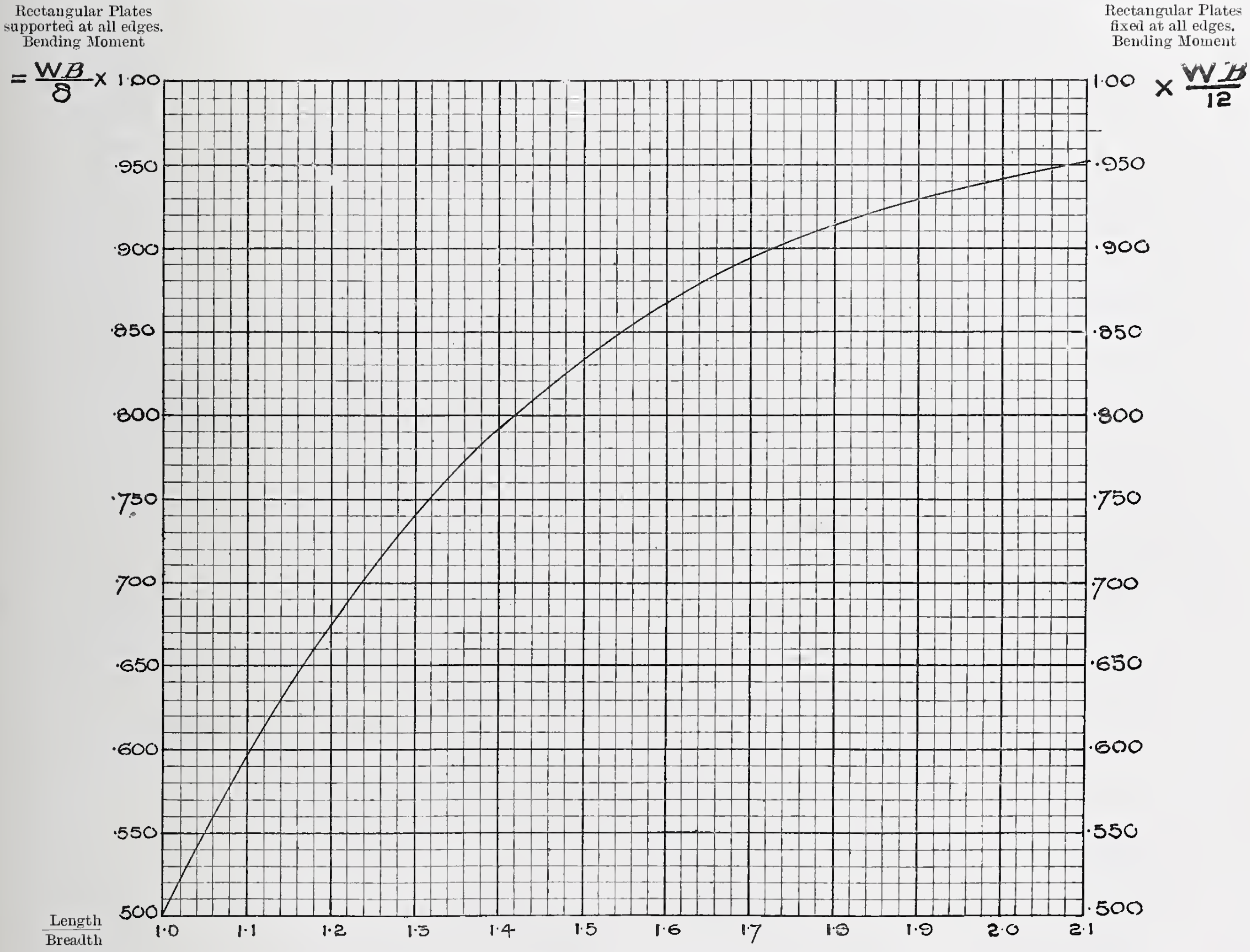

FIG. 3.—Diagram showing the Maximum Bending Moments on Flat Rectangular Plates, uniformly loaded, and supported or fixed at all edges.

Now $\frac{W B}{8}$ is the bending moment on the plate acting as a simple beam of span B not supported at the ends L, and the diagram shows clearly that as the length becomes greater in proportion to the breadth of the plate, the strength approximates more to that of a similar plate supported at the sides only. The bending moment of a square plate is ·5 of the bending moment of a slab of similar size and under similar load supported at two sides only. But the bending moment of a plate whose length is twice its breadth, is ·941 of the bending moment of a similar slab supported at the sides only. Accordingly, when the length becomes twice the breadth, it is an error on the side of safety to calculate the strength of such a plate as that of a simple beam supported at the sides only.

If we now consider the case of a plate fixed at all edges and not merely supported, we should find the deflection Δ_B of an elemental strip 1, 2, under an uniform load w_B per lineal unit, according to the usual formula for the deflection of a beam fixed at the ends, to be

$$\Delta_B = \frac{w_B B^4}{384 E I}.$$

From this we find as before,

$$w_B = \frac{L^4 W}{(B^4 + L^4)},$$

and as the bending moment for an elemental strip 1, 2, considered as a beam fixed at the ends is

$$\text{Bending moment} = \frac{w_B B^2}{12},$$

on substituting the value of w_B from the previous equation, we have

$$\left.\begin{array}{l}\text{Max. bending moment on}\\ \quad\text{the elemental strip}\end{array}\right\} = \frac{W L^4 B^2}{12 (B^4 + L^4)}.$$

To find the stress we have to equate this as before to the moment of resistance of the elemental strip, *i.e.*

$$\frac{s b d^2}{6} = \frac{W L^4 B^2}{12 (B^4 + L^4)},$$

or, as $b =$ unity,

$$s = \frac{6 W L^4 B^2}{12 (B^4 + L^4) d^2}.$$

Professor Unwin, in *Elements of Machine Design*, p. 75 (7th ed.), gives this last result, but without explanation.

The diagram fig. 3 may be used to find the bending moment in this case also, taking $\frac{W B}{12}$ as the multiplier of the vertical scale, as shown in the right-hand margin.

It may be well to refer for a moment to the question of fixed ends. Let fig. 4 represent the end of a beam or slab of concrete in a chase in a brick wall. The slab, being perfectly horizontal before the load bears on it, deflects when the centering is removed and the load comes on; and the ends tilting up assume a position such as that shown in an exaggerated way by the dotted lines on the figure. If the slab were perfectly fixed, the ends would not move. Such a degree of fixing cannot be got in an ordinary chase. If the concrete has been well forced into the chase, the upper part may draw out slightly, but the lower part will press against the brick. The resistance to this will produce a sort of arch action in a slab supported on two sides and dome action in a slab supported all round.

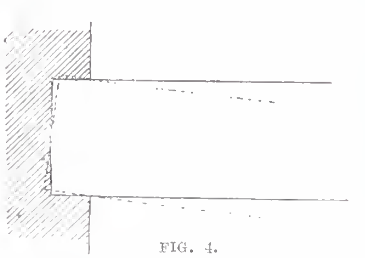

FIG. 4.

Perfect fixing is practically only obtainable in the case of fig. 5, where the concrete is continuous over the tops of the supporting joists or walls. In such a case the maximum stress occurs at the edges and not at the centres of the slabs. This may account for the cracking over the joists in slabs of concrete imperfectly fixed.

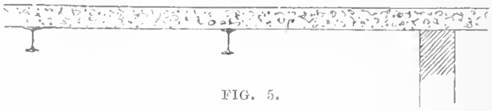

FIG. 5.

To find the bending moment and then equate this to the moment of resistance of the plate, in order to find the maximum bending stress, even with the aid of the diagram fig. 3, entails some labour which may be saved by the use of the diagram fig. 6.

To find the maximum bending stress in rectangular flat plates uniformly loaded, either supported at all edges or fixed at all edges, by the aid of fig. 6, proceed as follows:

(1) Divide the length of the plate by the breadth.

(2) Trace the vertical corresponding to the result on the scale at the bottom of the diagram to intersection with the upper curved line in the case of a plate supported, or to the lower curved line in the case of a plate fixed at all edges.

(3) Follow the corresponding horizontal line to the left-hand margin and note the value.

(4) Multiply the total load on the plate (including the weight of the plate) by this value and divide by the square of the thickness of the plate. The result is the maximum stress as before. If W and d are in lbs. and inches, the result is in lbs. per sq. inch.

As an example find the maximum stress on a concrete slab 14 feet 6 inches long, 8 feet 6 inches wide, 6 inches thick under a load of 15 tons (= 33,600 lbs.) supported on all edges.

$$\frac{14{\cdot}5}{8{\cdot}5} = 1{\cdot}7.$$

Trace the vertical 1·7 to intersection with the upper curved line and find the value = ·394, then $\frac{33{,}600 \times {\cdot}394}{36} = 367$ lbs. per sq. in. maximum bending stress on the plate.

One of the slabs tested by Colonel Seddon, of this size and thickness, broke under this load. Had the slab been perfectly fixed all round the edges, we should have had $\frac{33{,}600 \times {\cdot}262}{36} = 244$ lbs. per sq. in. maximum stress.

It may be asked what is the maximum safe bending stress on concrete slabs. This depends on the proportion and nature of the materials, the care and skill with which the mixing is performed, and the age at which the load comes on. Concrete varies from the loose and friable material used in many foundations to the strong compact artificial stone which is used in steps and landings, and the strength varies very widely. For ordinary floor concrete of 1 of cement to 4 of hard broken brick made by builders' labourers with proper supervision, I should suggest a maximum of 80 lbs. per sq. in. at the end of four weeks; for similarly made coke breeze concrete, about 60 lbs. For concrete of the nature of artificial stone made with specially good materials by skilled workmen, a much higher value—say up to 150 or 200 lbs.—may be taken.

I have examined the records of many tests of various mixtures and ages, and find the cross-breaking strength varies from 100 lbs. to a little over 700 lbs. per sq. in. A floor concrete as usually made, of 4 to 1, might be expected to fail under about 300 to 350 lbs. per sq. in.

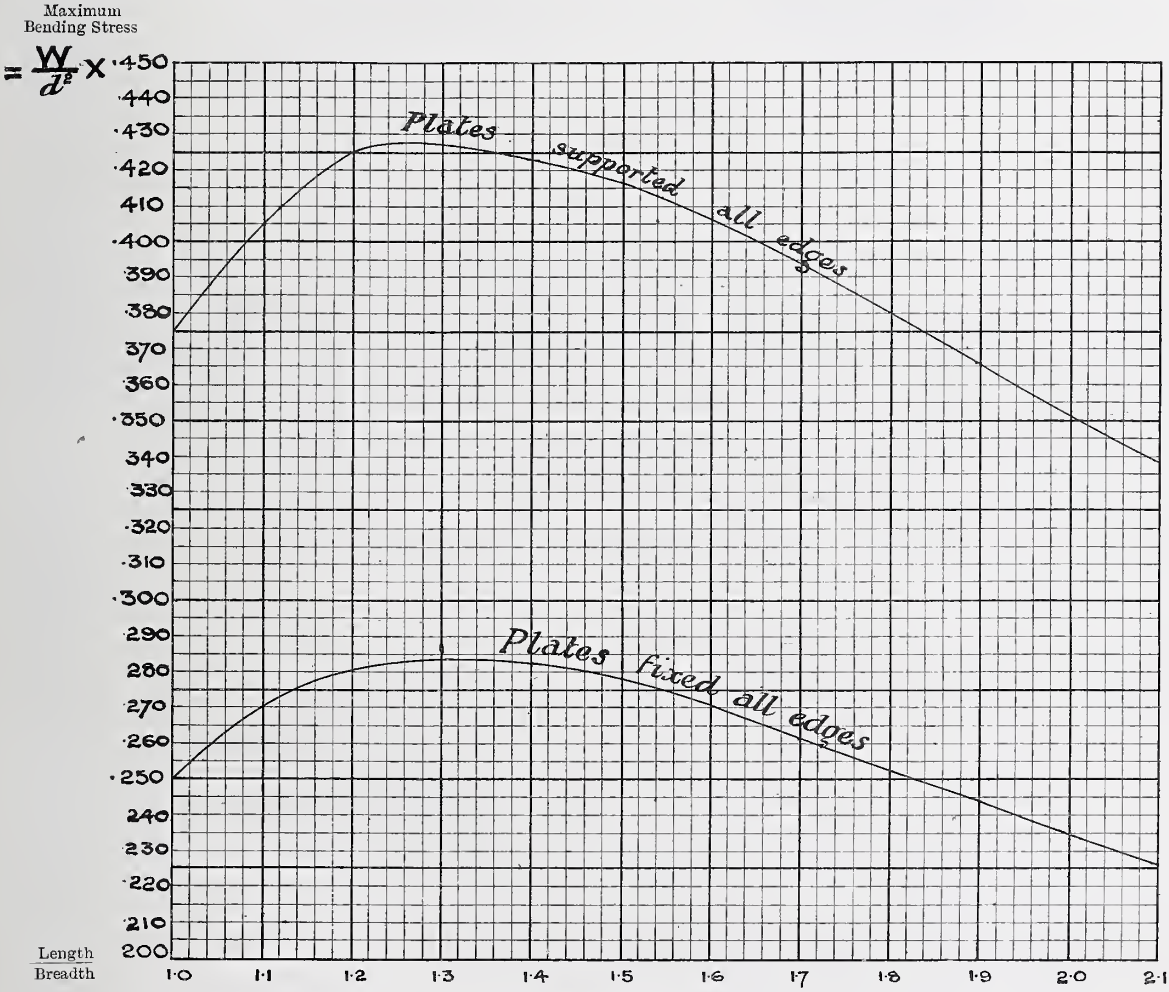

FIG. 6.—Diagram showing the Maximum Bending Stress in Flat Rectangular Plates, uniformly loaded, and supported or fixed at all edges.

Explanation of the symbols used in the foregoing note.

W = total uniformly distributed load on a beam or rectangular plate.
W = load per square unit uniformly distributed.
w_B, w_L } as described in body of paper.
b = breadth of any beam.
l = length of any beam.
d = depth of any plate or beam.
s = maximum bending stress in plate or beam.
E = modulus of elasticity.
I = moment of inertia of a beam.
B = breadth of rectangular plate.
L = length of rectangular plate.

NOTE.—Any system of units may be used. Thus s, W w_B, w_L and E may be in lbs. per sq. inch, and **W** in lbs.; b, d, B, L may be in inches, and I in quadric inches; in this case the bending moments will be found in inch-lbs.

INCORP. 1837 1887

9, Conduit Street, London, W., 26*th May* 1900.

CHRONICLE.

The Architectural Congress, 1900.

The attention of members is directed to the *Supplement* issued with the present number of the Journal, which contains a Provisional Programme of the arrangements for the Architectural Congress to be held in London under the auspices of the Institute during the week commencing the 18th June. A complete list of the General Committee of the Congress is also given, together with particulars of the Conversazione to be held at Guildhall on the 19th June, and of the Annual Dinner at the Whitehall Rooms on the 22nd. As already announced, the date of the Presentation of the Royal Gold Medal, originally fixed for the 25th, has been altered to the 18th June, and the presentation will be made at the first Meeting of the Congress. In the unavoidable absence of Professor Lanciani, whose engagements prevent his leaving Rome at this season of the year, the Medal will be received on his behalf by one of the Secretaries of the Italian Embassy in London.

Special Elections to Fellowship.

At the Council Meeting of the 30th ult., the following gentlemen were specially elected to Fellowship of the Royal Institute, under the proviso to By-law 9—viz.:

- John Coates Carter, Bank Buildings, St. Mary Street, Cardiff, President of the Cardiff, South Wales, and Monmouthshire Architects' Society.
- Frank William Wills, Foster's Chambers, Small Street, Bristol.

Honours for the President of the Allied Society at Dublin.

It is officially announced that the Lord Lieutenant of Ireland has intimated his intention of conferring the honour of Knighthood, with the approval of Her Majesty, upon Mr. Thomas Drew [*F.*], R.H.A., President of the Royal Institute of the Architects of Ireland.

The late F. W. Stevens, C.I.E. [*F*].

The Times of India of the 10th of March has a long and very appreciative notice of the career of Mr. F. W. Stevens, whose death, which occurred at Bombay on the 5th March, was announced to the Institute at the General Meeting of the 2nd ult. One intimately acquainted with his work writes:—"The city of Bombay has lost in Mr. Stevens a man who did infinitely more for its embellishment than any other of our generation. His name is written imperishably upon its face, and no one could wish for a more splendid memorial in the scene of his life-work than his genius has raised to him. Mr. Stevens was an artist in the truest sense of the term. His profession was not merely the labour, it was also the delight of his life. . . . Endowed with creative genius of a very high order, gifted to originate with boldness and distinction, he yet, by a somewhat rare combination of qualities, loved almost equally the details of his art." The same writer, referring to some of the most admired of his buildings, says: "He carried out in them with conspicuous success that blending of Venetian Gothic with Indian Saracenic by which he created a style of architecture so excellently adapted to the climate and environment of Bombay."

Frederick William Stevens was born at Bath, and was articled in 1862 for five years to Mr. Charles E. Davis. Superintendent of Works to the Corporation of Bath. In 1867, having passed a competitive examination at the India Office, he was appointed Assistant Engineer in the Indian Public Works Department, taking up his duties the same year at Bombay under General Fuller, R.E., the Government Architect. Various promotions followed, and in 1876 he was made Government Examiner to the Bombay School of Art. In 1878 he was appointed Architectural Executive Engineer to superintend the erection of the buildings he had designed for the great terminal station at Bori Bunder. This building, the largest erected in Asia in modern times, stands as a fine example of Mr. Stevens's creative skill. Public appreciation of the work was shown by his being honoured with a Fellowship of the Bombay University. In 1884, after prolonged correspondence, the Government, loth to part with the services of so able an officer, reluctantly accepted his resignation, which he had tendered some four years previously. Prior to his retirement from the Department, Mr. Stevens had been appointed a Government member of the Municipal Corporation, and in 1887 Lord Reay made him a member of the Commission for the further extension of Bombay. In 1888 the Bombay Corporation charged him with the design of its splendid pile of Municipal Buildings. This is one of Mr. Stevens's finest works; in carrying it out he came to England and opened an office at Bath, engaging several assistants for the preparation of the first plans.

After about a year in England he returned to India to superintend the erection of the buildings. In 1889 the Order of Companion of the Indian Empire was conferred upon him "for services rendered in connection with public buildings in Bombay." Others of Mr. Stevens's works in Bombay in later years are the new administrative offices of the B. B. and C. I. Railway at Church Gate, the reconstruction of the Oriental Life Assurance Offices from the premises formerly occupied by the Cathedral High School; in earlier years the Royal Alfred Sailors' Home and the Post Office Mews on the Apollo Bunder. His last work was the designing of the Chartered Bank Offices, the foundation stone of which was recently laid. In other parts of the country he designed and carried out the Government House, Naini Tal, the Court Houses at Mehsana in the Baroda territory, the Standard Life Offices, Calcutta, buildings in connection with the waterworks at Cawnpore, Agra, and Benares, and the church at Igatpuri. As Executive Engineer of the Presidency Division he undertook numerous works in connection with drainage, water supply, sea walls, reclamations, and roads.

Mr. Stevens was in his fifty-third year, and had been a Fellow of the Institute since 1883.

The Ducal Palace, Venice.

It appears from a report by Mr. Consul de Zuccato on the Trade and Commerce of Venice for the years 1898–9, recently printed by the Foreign Office, that although some exaggerated reports were lately circulated with regard to the condition of the Doge's Palace at Venice, it is a fact that it was in urgent need of repair. The resolution of the Supreme Council of Fine Arts in Rome with reference to the safety of the palace was very opportune, as it induced the Government to order the execution of the necessary work of repair and the removal of the books from the Library of St. Mark, the weight of which was endangering the building. Some of the vaults in the courtyard have been strengthened and the shoring removed; several beams in the ceilings of the Sala Avogaria and the Sala Quarantia have been replaced and others repaired, and the floors put in order. Iron bars are being passed through the floors of the Sala dei Pregadi or del Senato, the Sala del Consiglio dei Dieci, and the Sala della Bussola, to tie together the two fronts of the building. The old rotten beams in the roof of the palace fronting the angle of the Piazzetta are being removed and new beams inserted. It is to be regretted that the books of the Marcian Library and the sculpture are still in the palace, although arrangements have been made for transferring them to the palace formerly the Zecca, or Mint, adjoining the Biblioteca on the Molo. Many of the ancient works of art, which were stored in the cellars, including a lion by Jacobello del Fiore, have been restored and replaced in their original positions in the palace.—John Hebb.

REVIEWS.

GOTHIC ART IN ENGLAND.

A History of Gothic Art in England. By Edward S. Prior, M.A. With illustrations by Gerald C. Horsley, and many Plans and Diagrams. Imp. 8o. Lond. 1900. *Price* 31*s.* 6*d. net.* [*George Bell & Sons, York Street, Covent Garden, W.C.*]

Mr. Prior's *History of Gothic Art in England* may fairly claim the best sort of praise, in that it rises to the height of a great subject. It is not a long book, but it covers an extensive field, though not one quite as large as is suggested by the title. It is based on an intimate study of examples that are not confined to England in the narrow sense of the word, and it is coloured throughout by a generous enthusiasm for their rare and manifold beauties. On these the writer discourses with brightness and point, and if his language is at times somewhat "precious" we accept the forced expressions as phrasing the personal sentiment which is throughout characteristic of the work. In his general views the author is a pronounced mediævalist, and, as a consequence, anti-restorer. He has a patriotic conviction of the superlative excellence of English Gothic architecture, even in some of those points on which native critics are apologetic. With a philosophic grasp, that has been wanting to so many who have previously dealt with the theme, he treats this architecture as a whole, and from the point of view of development, seeking for the prototypes of Plantagenet forms in Norman and tracing in the latter a survival of Saxon traditions. Not content, however, with linking together the earlier and the later phases of the art, the author seeks to disentangle the various threads of tradition and influence, ecclesiastical, artistic, and local, which unite to make the architecture of each epoch. He endeavours to distinguish the plans and methods of the different religious orders, the forms of pier and tracery and ornament characteristic of the north or the south-east and south-west of the country; to exhibit the working upon art of social movements; even to trace the influence of the great quarries upon the ultimate shapes of the material they furnished. This cannot, of course, be done without extensive generalisations, and in stating these Mr. Prior is always positive and at times a little arbitrary. It may be said at once that the writer of these lines is not on that account going to quarrel with him. So long as the views expressed in a work of the kind have a basis in first-hand observation and thought, they should be received with respect and carefully weighed. We need not accept them as they stand, but occasional dogmatism and here and there a stilted phrase should not stand in the way of their consideration.

There is this advantage in the breadth of statement that characterises the book, that it comes as a refreshing change from the manipulation of mere details which makes up the content of some of our older handbooks of English architecture. It may be in conscious revolt that Mr. Prior treats so cavalierly the sacred theme of mouldings, of which in some circles there is quite a *cultus*. He wastes few words on their analysis, and some of the drawings which exhibit them, such as fig. 78, are the least enlightening in the volume. The gratitude of the reader who is let off his mouldings is further earned by the total absence from Mr. Prior's pages of any reference to the stock-in-trade of the architectural medicine-man, who comes along with his symbolism, his triangles and ratios, his guild-secrets and "freedoms," his *magistri Commacini*, and the like. It would not be worth mentioning all this paraphernalia, with which the history of architecture has sometimes been encumbered, were it not that such mysticism exercises a fascination over some minds and receives at times undue countenance and encouragement. Our mediæval churches, according to the book before us, were fashioned on principles of art and of common sense, and were designed of such proportions as fitted the aims, the taste, and the means of the builder. It was reserved for the generations that came afterwards to force the actual dimensions on to the Procrustes-bed of the mystic triangle or scale.

The reader's satisfaction in the attractive-looking volume is enhanced by a full index, but it is a pity that a little more pains were not taken to eliminate from the text misprints and errors, which are more numerous than is indicated in the list of errata in the preface. That Karnak and the Ramisseum are on p. 2 antedated by some four millenniums may be held not to matter, as the public is indifferent to a few thousand years more or less in Egyptian chronology. It is more important that the assignment of English localities to their respective counties is too often incorrect, as when Iver is put in Middlesex, Kelmscott in Gloucestershire, New Romney in Sussex, Sibton Abbey in Essex. We noticed four of these slips on a single page. These may not be matters of great moment, but we blame foreign writers for blundering in our titles and places,* and should ourselves set the example of accuracy. There are not a few *obiter dicta* in the volume to which exception might be taken, such as the statement that Irish round towers are *often* attached to churches (p. 47), that the aisling of naves and the central-towered cross-plan were specially monastic, and that the square western towers of Saxon churches go back to the ninth and tenth centuries and have *most often* no western entrance (pp. 50, 51). To say that "the sexpartite vault was a hybrid fathered on the dome rather than a natural offspring of groin intersection" (p. 96) is to ignore that form of it which appears at Ste. Trinité, Caen, and seems clearly to show the priority of the quadripartite intersection. A protest should be made against the growing custom, favoured by Mr. Prior, of using the word "apse" for a square-ended presbytery. Unless this is an indirect way of defying the reproach that English art abandoned this effective traditional feature of Christian architecture, there is no reason for the misuse of language. *Apsis* (from ἅπτω, I connect) is employed both in classical and early Christian writings in the sense of a rounded dome or semi-dome. This meaning the word has retained, and it only breeds confusion to try and make it imply something quite different. That Romanesque doors were "wooden mimicries of stone construction" is a puzzling statement (p. 274). Stone doors in Central Syria and bronze doors in the mediæval West imitate wooden ones, but the contrary relation we do not remember to have met with. The illustrations, mostly by Mr. Gerald Horsley, strike one as somewhat unequal. Many of them are delightfully clear and firm in touch, such as that of Wells North porch (p. 111) and Hexham transept (p. 187), Chester Refectory pulpit (p. 239), and some of the drawings of ornament between pp. 138 and 151. On the other hand there is rather a want of breadth about the Chapel of the Nine Altars, Durham (p. 195), while Lincoln south doorway of presbytery (p. 283) and the "Minstrel Gallery," Exeter (p. 419), are confused and unsatisfactory in effect, and Chichester Triforium (p. 135) is not nearly so good as Valentine's photograph.

In regard to his general attitude towards his subject the author may count upon a good deal of sympathy among his readers for his mediævalism. From his point of view, if the Oxford of 1200 had no glazed drain-pipes it was at any rate a place where

> "the student was in the midst of an impulse that was growing to greater nobleness and freer expression, and making every building, small or great, fair and beautiful, radiant with colour, alive with the vitality of a sculpture such as the world has rarely seen; when fabric and utensil alike had a fitness and grace that makes their fragments the treasures of a cabinet; when, in a word, there was an absence of any ugly thing, for the whole being of the nation was expressing itself in beauty" (p. 45)—

and we are well content to dwell with the author for a while in this somewhat idealised realm. As anti-restorer he goes a little far, perhaps, when he figures the unrestored churches of the early part of this century as buildings in which "fifty years ago" Gothic utterance "still spoke clear and true." We fear that the voice had then to come, somewhat muffled, through plaster ceilings and coats of whitewash, and from behind galleries and boardings manifold. No sane person would defend all that has been done in the last half-century in the name of restoration; but should we have been as well off now, on the whole, if the churches had been allowed to remain as they were or to fall, as many of them threatened to do, into ruins? Indiscriminating wrath against all that comes under the word "restoration" does more harm than good to the cause which those who evince it have at heart. "Restoration" includes such processes as the removal of unsightly accretions, the renewal of structural parts which are giving way, the rebuilding—of course without the old-world glamour—of ruined fabrics that are actually needed for the use of modern congregations. Cases of this kind must be differently judged from the detestable practice of rejuvenating old work when there is no question involved of safety or accommodation. It may be necessary to rebuild the nave of Hexham and justifiable to open the screen, but the renewal, in a former restoration, of the balustrade of the noble stairway from the dormitory had no sort of justification whatsoever. The furbishing up of the Chapter House at Canterbury is a recent case of tasteless modernisation, and the restoration, now threatened, of Iona Cathedral would be a still worse offence.

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* In M. Ruprich-Robert's *Architecture Normande* three successive plates are labelled *Église Abbatiale de Saint-Alban (Kent)*, *Église Abbatiale de Saint-Alban (Hertfordshire)*, and *Cathédrale de Saint-Alban (Kent)*.

On the question of the actual artistic merit of English Gothic architecture, especially in comparison with that of France, Mr. Prior's work, not perhaps in form but in fact, is controversial. It is a forcible vindication of our native style against the depreciation of foreign writers, whose adverse criticisms were summed up and emphasised in the *Gothic Architecture* of Professor Moore, of Cambridge, Mass. We must frankly admit that, while sympathising with Mr. Prior in his patriotic enthusiasm, we hold his statement of the case in some important points one-sided and even paradoxical. He admits, it is true, the splendour of the French achievement (pp. 9f., 30f., &c.), but he seems inclined elsewhere in the book to take away in detail from the meed of praise to which he gives this generous expression. Professor Moore had worked to death the familiar theory of French Gothic construction as dominated by the vault, but Mr. Prior goes too far on the other side when he seems to treat the vault as something indifferent or even in the way, accepts wooden imitations of stone vaults without demur, and even remarks (p. 185) that the Augustinians of Hexham, "uncramped by the necessities of vaulting," "were able to exhibit the ambitions of Gothic frankly and completely, without the compression that mars our cathedral bay-design." It is curious to find the extravagantly spreading, we had almost said sprawling, flying buttresses of Lincoln Chapter House praised at the expense of the necessary supports of the high vaults of French churches.

> "Very widely and finely do they" (the chapter houses) "plant the bases of their expression—those weathered and sloping buttresses which contrast with the scaffold-like erections of the contemporary French construction" (p. 321).

Again, consistency and logic in the relation of parts and details to structure may be made a fetish, but is none the less a principle of vital importance. In Mr. Prior's treatment of west fronts may be discerned a certain laxity of view on this matter. He is satisfied to regard the west front of a great church as a sort of screen that might be made wide or narrow at will, instead of the necessary expression, first, of the structure of the building, and then of its function as a place of congregational assembly standing open for the multitude to enter. To praise the west front of Wells because "with perfect art the doors are subordinated to the scale of the statuary, and give it a prominence," sounds a note of defiance in the face of Mr. Ruskin's well-known criticism of the "pitiful little pigeon-holes." For decorative features to give the scale to essential parts of the fabric is a solecism in the tectonic art. It is true that, as Mr. Prior points out, there are at Wells, as in many of our English churches, important side entrances, which give occasion for the specially native feature of the extended porch; but the surrender of the main portal at the end of the building opposite the altar is a very serious one, and the resulting loss is not a thing wholly to ignore. The absence of unity in the interior effect of our long and subdivided buildings, that are sometimes like two churches in one, and the square east ends, which in one place at least (p. 40) are presented as positive improvements, are points in which English Gothic buildings are open to reasonable criticism. The reader of the work before us will be too apt to carry away the impression that the style united all possible excellences both of general design and of detail.

In the more distinctly historical part of his work Mr. Prior is successful in establishing for English Gothic the independent position which the best of recent foreign writers are ready to accord to it. Though we must still seek in France for the original inspiration of the Gothic movement, there is no question that the relation of English work to French is not one of filiation so much as one of parallel development. By emphasising Cistercian influence [*] the author is able to trace the evolution of English Gothic in the last half of the twelfth century without any more than a passing reference to the work of William of Sens at Canterbury. As Westminster in the thirteenth so is Canterbury in the twelfth century treated as a mere episode, a local accident as it were, not affecting the general course of English architectural history. For the plan of the English Gothic cathedral a source is found far back in our annals, and a considerable part of Mr. Prior's second chapter is occupied with an endeavour to introduce classification and a principle of development into the multitudinous varieties presented by actual structures from the seventh century to the thirteenth. There is no space to enter upon the archæological questions suggested by this retrospect, but the distribution of early plans as typical of different religious bodies can hardly be made out with clearness till we come to the distinct Cistercian peculiarities. Our own later architecture may have derived certain special features, such as large porches and square east ends, from earlier traditions, but the real secret of the peculiarity of the English plan was that it carried much further than was the case on the Continent the monastic tendency to emphasise and enlarge the presbytery. It was mainly through this that there was accomplished what Mr. Prior calls "the emancipation of the English church-plan from the general monastic traditions of Western Europe, and the Gothic creation of a new type for us" (p. 46).

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[*] Mr. Prior even writes (p. 131) of "our first Gothic" as "a Cistercian art." There was a good deal, however, even in English early Gothic that cannot be explained from Cistercian sources.

The larger portion of the volume is occupied with an artistic analysis of this English Gothic scheme of building. There may be differences of opinion as to its historical genesis, and the author may, as we have indicated, deal with it in some of its broader æsthetic aspects in a too partial spirit, but most readers will cordially subscribe, on the other hand, to his admiration for English Gothic detail. Alike to the sculpturesque reserve and purity of early English and the rich diapering and niche-work of the fourteenth century Mr. Prior does full justice in phrases at once acute and appreciative. The passages in question may be commended to those critics from beyond the seas who would deny true artistic inspiration to our masons and carvers because they felt no ambition to turn their churches into what Mr. Prior calls, somewhat unkindly, "chain-works of articulated stone pegged to the ground by pinnacles."

The author has adopted in the main the threefold division of the successive styles of English Gothic, though he points out (p. 300) the vagueness of the indication furnished by the popular term the "Decorated style." True to his philosophic aim he describes the three periods as expressing successively the ideals of the Priest, the Noble, and the Burgess. In the first case he is driven to an inadequate explanation through his reluctance to acknowledge the French inspiration of the whole spiritual movement of the twelfth century, of which Gothic was only one of many results. The connection, however, of the art of the fourteenth century with the age of chivalry is well made out (ch. viii. *ad init.*), and so too is that of the "perpendicular" epoch, when, after the Black Death of 1348, "socially and artistically England entered on a new life; the Middle Ages had sown their wild oats; the exuberant audacities of romantic youth were left behind." The "Decorated" epoch is fully dealt with in respect to its various achievements in structure and ornament in the eighth and ninth chapters, but the later phases of English Gothic to which the last chapter is devoted are not followed out into detail. The author acknowledges that "a book by itself is needed to do justice to the last chapter of our English Gothic," and this in the present connection he has not essayed to write. But if, as he says, "the attempt to individualise the local characters of perpendicular is beyond the compass of these pages," for the earlier periods he has always in view his aim of "separating the different schools of English style," and defining "as far as possible their local characters." To give an account of this analysis of the characteristics, both æsthetic and local, of the work of the thirteenth and fourteenth centuries, contained in a volume that all will read, would be quite superfluous. Mr. Prior's treatment of the development of window tracery, especially in relation to the character of the glass filling; his brief analysis of the design of towers and spires; his notes on decorative art in canopies, tombs, and fittings, which, though necessary, are always fresh and suggestive, are features of the book which readers will commend, though they will miss from the last chapter a notice of the later woodwork in screens and roofs, which seems needed to complete the review of the characteristics of English Gothic. The author seems, indeed, less at home in East Anglia, where these things flourish, than in other parts of the country.

The volume before us will necessarily occupy the position it deserves to hold as the text-book for students of our English styles, and these will find his statements if not infallible yet always a stimulus to further study and comparison. When the subject is parted with in the last chapter the extent of the field which still waits for exploration comes clearly into view, and one of the best purposes the book can serve will be that of a starting point for further investigation of the infinitely varied artistic beauties of English mediæval art, especially in our country churches.

> "The varying applications of this art in the solid homely sense of English life can be read in the make of our parish churches; and so we ought to study them, country-side by country-side, noting their fancies and their shifts, their love and their simplicity, and praising the fathers that begat us" (p. 447).

That foreign critics and historians take in general an adverse view of English Gothic Architecture is partly due to the fact that they study it in the greater monuments, in which a comparison with parallel work in central France is not always to our advantage. The artistic spirit which animates our native Gothic expresses itself most perfectly in smaller works, such as the Chapel of the Nine Altars at Durham, or the exquisite north porch at Wells, in Lady-chapels and chapter-houses, and most especially in the parish churches. Fully to assimilate the charm of English Gothic it should be studied in these smaller, often quite unpretending structures, and they should not be visited merely, but, so to say, *lived in* until the charm enters the mind and dwells there. The opening up of this storehouse of beauty to the intelligent student is one of the great aims of Mr. Prior's book, and in the central chapters of it he has well succeeded.

Edinburgh. G. BALDWIN BROWN.

EMBROIDERY.

Art in Needle Work: a Book about Embroidery. By Lewis F. Day and Mary Buckle. "Textbooks of Ornamental Design" Series. 8o. Lond. 1900. Price 5s. net. [B. T. Batsford, 94, High Holborn, W.C.]

Art in Needle Work, Mr. Lewis F. Day's latest work, is a useful manual on embroidery, which will provide pleasant and profitable reading for those interested in the subject. The object of the book is to show what decorative stitching is, how it is carried out, and what it can achieve. To attain this object almost every known stitch has been classified with clearness and simplicity; concise descriptions are given as to the way in which each is worked, and advice is offered as to which is most suitable to produce a desired effect. The book is profusely and admirably illustrated. The examples are drawn from the needlework of many countries, and are chosen for the artistic interest they possess as well as illustrating some point of workmanship. All students and workers of this handicraft, which "at its best is an art," will be grateful to Mr. Day for placing at their disposal the result of his studies. E. M. CHARLES.

LEGAL.

Architect taking out Quantities: Fees.

DOLLAR *v.* HIGGS.[*]

This was an action brought by the plaintiff, an architect and quantity surveyor, to recover from the defendants, Messrs. H. & H. T. Higgs, builders and contractors, the sum of £262 10*s.* The case was heard by the Lord Chief Justice and a special jury on the 1st, 2nd, and 3rd May. The plaintiff's case was that in August, September, and October, 1897, the defendants were employed in the erection of buildings at Tottenham for Messrs. Pickford & Co. The plaintiff prepared plans and took out bills and schedules of prices and measured up the work in connection with the said buildings, and alleged that his fees and charges as quantity surveyor amounted to £262 10*s.* His case was that, in October 1899, Messrs. Pickford & Co. paid to Messrs. Higgs on behalf of the plaintiff the sum of £262 10*s.*, and that the defendants received that sum as agents for the plaintiff. He alternatively claimed the money for work done and services rendered as quantity surveyor. The defendants denied that the plaintiff took out the bills or schedules of prices, or measured up any of the work in connection with the buildings, or that his fees and charges amounted to any sum. They denied that they had ever agreed to pay the plaintiff his charges, and that Messrs. Pickford & Co. ever paid them any sum as agents for the plaintiff. They said that Messrs. Pickford & Co. paid them £262 3*s.* 8*d.* for and on behalf of Mr. Wardle as surveyor's fees for measuring and making up accounts in respect of the buildings, and alleged that they had paid Mr. Wardle this sum. The defendants further denied that the plaintiff did any work or rendered any service as quantity surveyor in or about the erection of the buildings. It appeared that the plaintiff's case was that he had employed Wardle to do the work in question at a less percentage than he was to receive from Messrs. Pickford & Co., and which was by arrangement $1\frac{1}{2}$ per cent. In other words, the plaintiff alleged that Wardle did the work as his assistant.

After hearing evidence, his Lordship left the following questions to the jury: (1) In the circumstances of the case, were the defendants justified in regarding Wardle to be an independent quantity surveyor and paying him? (2) Was there any evidence that the plaintiff did anything in relation to the quantities, except in his character of architect? His Lordship said he hoped that the plaintiff would think it right to consult the highest authority in his profession as to whether that authority thought it consistent with the highest standard of professional honour to act upon such an arrangement as the plaintiff said he had done in the course of the case. His Lordship thought the arrangement spoken of was objectionable, as it was desirable that the quantity surveyor should be an independent person and quite independent of the architect. The architect ought to have no interest in the work of the quantity surveyor at all. He told the jury that if the plaintiff had led the defendants to believe that Wardle was an independent quantity surveyor he could not recover.

In the result the jury could not agree on a verdict, and were accordingly discharged.

TORROMÉ *v.* SCOTT.

This case came before the Lord Chief Justice and a special jury in the Queen's Bench Division on the 3rd May.

The plaintiff, the owner of a house and premises called Hillwood, West Hill, Sydenham, sued the defendant, an architect and surveyor employed by him, for negligence. There was also a further claim in respect of certain moneys received by the architect from the contractor in alleged breach of the agreement entered into between the employer and the architect, and further without the knowledge and consent of the employer. The defendant denied the alleged negligence, and said that the agreement between himself and the plaintiff was that he (defendant) should have the usual charge of 5 per cent. for preparing the plans and specification of the work to be done, and also for supervising its carrying out. He further said that the plaintiff did not demand, nor did he (defendant) agree that the commission of 5 per cent. should be taken in discharge of all fees, charges, and expenses whatever in relation to the said work. The defendant also counterclaimed against the plaintiff for fees he alleged to be due to him for services rendered.

Mr. A. T. Lawrance, Q.C., and Mr. Giles appeared for the plaintiff; and Mr. Scott Fox, Q.C., and Mr. Sturgess for the defendant.

From the opening statement of the plaintiff's counsel (Mr. Giles) it appeared that the agreement between the parties was entered into in March, 1896, in respect of the house in question, to which the plaintiff desired certain alterations and additions to be made. In the first place the agreement with the defendant was for a sum to cover the supervision of the work and to carry out the alterations for which plans had been prepared by a builder for a sum of 3 per cent. on the cost. Subsequently, that arrangement was altered, because the defendant suggested that these plans were not sufficient for the purpose, and that he should prepare better plans. With regard to that it was further agreed between the plaintiff and the defendant that the former should prepare the plans and specifications, and obtain tenders in respect of the work for a fee of 5 per cent. on the cost. The plaintiff's contention was that he was to pay this 5 per cent. and that there would be nothing more to pay. The plans, &c., were finished in June 1896, and certain tenders were received which the employer thought too high. Negotiations then took place in order to see if some one of the contractors would not agree to do the work at a lower figure. Ultimately it was arranged that a contractor, Mr. James Carmichael, should do the work required for the sum of £3,200. That contract was signed on 29th October 1896. The contract provided that the work should be completed by 31st May 1897. There was also a proviso that the work should be done in a workmanlike manner and with the best materials, and that alterations and additions might be made during the progress of the work on the order of the architect. It seemed that the ordinary course with regard to these orders was not followed. Instead of entering the orders in an order-book, the architect gave the orders by letter. It was impossible, counsel contended, at the end of important work like this to ascertain what was extra work and what was contract work, after a considerable lapse of time, when there was no data to show the amount of extra work the architect had ordered. The extras in the present case amounted to £1,060. Plaintiff's counsel also stated that the summary attached to the bills of quantities contained a provision that the contractor tendering should add the surveyor's charge of 2½ per cent. on the estimate, which was to be paid out of the first instalment. The plaintiff's complaint on that was that this was in breach of the arrangement made by the defendant that he would do the work at 5 per cent. In addition to that the plaintiff's case was that he never knew that this amount was to be paid to the architect, that he was never consulted upon it. and his consent was never given. The plaintiff never knew until later, by a mere accident, that the defendant was receiving that sum of money from the contractor, and it was alleged that there was evidence of an intention on the part of the architect to keep this fact back, or secret, from the plaintiff. The evidence was that when the plaintiff asked for a copy of the bill of quantities the copy sent to him by the defendant terminated at page 108, and did not contain the paragraph complained of. Plaintiff's counsel submitted that although there was ample authority on the part of the architect to employ a quantity surveyor, it was contrary to the rules of the profession as laid down by the Institute that the architect should do the work himself without the consent of the employer, and receive any payment from the contractor.

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[*] This and the following case are compiled from the reports in *The Builder* of 12th May.

His Lordship: I understand it was not alleged by the architect that an independent quantity surveyor was employed.

Mr. Scott Fox: By a letter of June 22 to the plaintiff he said he was going to do it himself. He said, "I will take out the quantities." Throughout the correspondence there was no suggestion that he would employ anybody else.

Mr. Giles replied that at this time the plaintiff knew nothing of the payments passing between the contractor and the architect. It was only in consequence of something which the plaintiff heard later on that the plaintiff taxed the architect with it, and he admitted that it was in respect of getting out the quantities that he was to receive payment. In June, 1897, some further work was undertaken by the architect for the plaintiff, and this was the erection of certain stables to Hillwood. Tenders were obtained for the work, and quantities were got out. These quantities were submitted to the plaintiff, who struck out this claim of 2½ per cent. when the quantities came before him. The plaintiff said that the contract with the defendant was the same as it was for Hillwood—viz., 5 per cent. for all the work, and that he would not allow this 2½ per cent. for taking out the quantities. The defendant said, however, he was entitled to it. It was submitted that the defendant was not entitled to anything for measuring up the extras, &c., as it was all included in the 5 per cent. for the total cost of the work. The sum claimed for that item, viz., £72 15*s*., had not been paid by the plaintiff, but it was included in the certificate of the architect granted on 31st August 1898, and claimed in the action which the contractor was bringing against the plaintiff. There was a similar claim made by the defendant in respect to the stable contract, and he granted his certificate also with respect to those extras.

His Lordship: My present impression is that you have to show, to begin with, a special contract that 5 per cent. was to cover the charges for taking out the quantities. It may be that this gentleman was wrong in undertaking that work himself, and I think he was. I think he ought to have had some independent person to do that work and the measuring up. If he had done so, however, the plaintiff would have had to pay for it. You have to show that there was an express contract by the defendant with the plaintiff that the 5 per cent. was to cover everything. His Lordship added that it appeared to him that the matter could be best dealt with by an arbitrator.

Mr. Giles said that he thought the question of whether there was a special contract or not was one which ought to go to a jury.

Mr. Lawrance said that the questions to be decided were whether there had been impropriety on the part of the defendant with reference to those payments, and whether he had been guilty of negligence in his duty as architect. Those questions ought to be tried together. The question of negligence, he submitted, was one which ought to go to some scientific person to say whether there had been impropriety or negligence on the part of the defendant.

Mr. Scott Fox, for the defendant, in agreeing that the case should be referred, said it must be distinctly understood that the defendant did not wish to have the case withdrawn from public investigation. He (the learned counsel) felt that it would be impossible to try the negligence part of the case before such a tribunal as the present.

After some further discussion it was arranged that the case should be referred to the President of the Royal Institute of British Architects, with power for that gentleman to name the architect to adjudicate on the matter if he (the President) could not take it.

The parties, on the recommendation of the Lord Chief Justice, decided to make the President the absolute arbitrator, whose decision should be final, he being also empowered to decide what should be done with regard to the costs of the trial and of the arbitration.

MINUTES. XIV.

At the Fourteenth General Meeting (Ordinary) of the Session, held Monday, 21st May 1900, at 8 p.m., Mr. Edw. A. Gruning, *Vice-President*, in the Chair, with 21 Fellows (including 10 members of the Council), 20 Associates, 2 Hon. Associates, and several visitors, the Minutes of the Meeting held 7th May 1900 [*ante*, p. 341] were taken as read and signed as correct.

The following Associates attending for the first time since their election were formally admitted and signed the Register, viz., Bessie Ada Charles, Ethel Mary Charles, David McLeod Craik, Alfred Herbert Foster, John Hunt, and Thomas Tyrwhitt.

The following applicants, found by the Council to be eligible and qualified according to the Charter and By-laws, and admitted to candidature, were recommended for election, namely:—As Fellows, Ibrahim Shaik Daúd Ahmadi [*A.* 1888], L.C.E. (Bombay); John Bain [*A.* 1892], Newport, Mon.; Sydney Francis Bartleet; Henry Budgen [*A.* 1892], Cardiff; Alfred Arthur Cox [*A.* 1885], *Grissell Medallist* 1886, *Godwin Bursar* 1890, Montreal; Thomas Dinwiddy; Ernest Flint [*A.* 1880]; Frank Loughborough Pearson; Nathan Glossop Pennington. As Hon. Associates, George James Frampton, A.R.A.; Frank Newton Jackson.

A Paper on The Work of Professor Cockerell, R.A., by Mr. J. M. Brydon [*F.*], having been read by the author, and illustrated by drawings and photographs specially lent for the occasion, a discussion ensued, and a vote of thanks was passed to Mr. Brydon by acclamation.

The proceedings then closed, and the Meeting separated at 10.15 p.m.

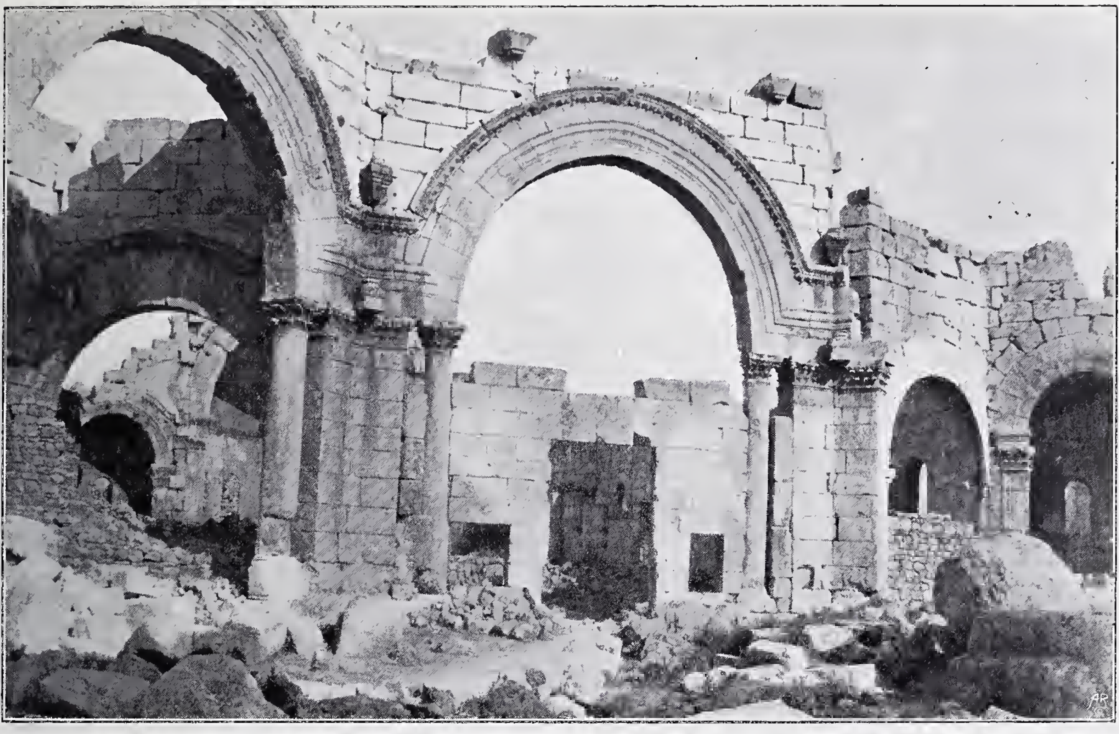

FIG. 1.—KUL'AT SIMÂN. OCTAGONAL COURT.

THE ARCHITECTURE OF CENTRAL SYRIA.

TWENTY-THREE years ago the Comte de Vogüé published a work on the Architecture of "Syrie Centrale," a subject to which he had devoted twelve years of travel and research. His work, in two large quarto volumes, contained 151 engraved plates of great beauty in execution, and many woodcuts in the text, illustrating the civil and religious buildings of the Haouran, a large district lying south-east of Damascus, and of the northern portion of Central Syria, between Antioch and Aleppo, and extending about a hundred miles to the south thereof. The period covered by the execution of these buildings ranged from the first to the seventh century, and included: first, those carried out under the Roman rule; and afterwards, those in which a hitherto unknown style had been developed by the early Sabæan Christians. The researches of early travellers, such as Burckhardt, the Rev. J. L. Porter, Cyril Graham, and others, had revealed the existence of remains of the Roman period beyond those which had been made known to us by Dawkins and Wood, and by Cassas at Palmyra and Baalbek. But the magnificent series of early Christian works, and the complete development of a style in which the Byzantine and what might be regarded as a Romanesque type (viz. a style founded directly on Roman architecture) were blended together, came to us as a revelation, and led some architectural writers to the conclusion that again to the East we should have to return if we desired to trace the origin of the Romanesque style of Europe. Against this theory, however, three strong arguments were put forward by M. de Vogüé: first, that this style was developed and completed at much too early a period, viz. between the fourth and seventh centuries; secondly, that the towns in question were deserted at the time of the Mahommedan invasions, and, except by wandering hordes of a nomadic people who had sought temporary shelter in them, had never been since regularly occupied, and their destruction was due more to earthquakes than to the hand of man; and thirdly, that the Crusaders never reached these towns, which were situated too far from the seaboard whence they obtained their means of transport and protection. The Crusaders at the time (1098) took possession of Antioch, but in their descent to Jerusalem they followed the coast, and the Georgians only are instanced as having penetrated to and occupied the buildings of Kul'at Simân.

It is possible that within the last twenty years other travellers may have visited some of these deserted cities, but so far as we know no photographs or works have been published to illustrate or further elucidate the principles which guided these early Christians in the style they developed.

The reproductions which illustrate this article are made from photographs taken by M. Thevenet, of Antioch, and have been kindly lent by Professor van Berchem, of Geneva, who has also taken others himself, which we hope to be permitted to reproduce later on. The value of the photographs is twofold. In the first place they substantiate the accuracy of the greater number of M. de Vogüé's plates, but in the second they suggest some slight inaccuracies which have crept in from the fact that the engraver has either introduced more decorative or constructive features than the building represented actually contained, or has misunderstood the peculiar construction of the buildings, representing them rather as we should execute them at the present day in Europe than as they were carried out in Syria in the sixth and seventh centuries. As examples of the former we might instance the drawing of Kul'at Simân [fig. 1], of which we give a portion of the central court of the great church represented in plate 144, and in fig. 2 the octagonal church illustrated in plate 150. Of the latter, in fig. 3, the window and door jambs of the upper story are decorated with mouldings which, though found in other buildings, do not exist in the house at Serdjilla, shown in

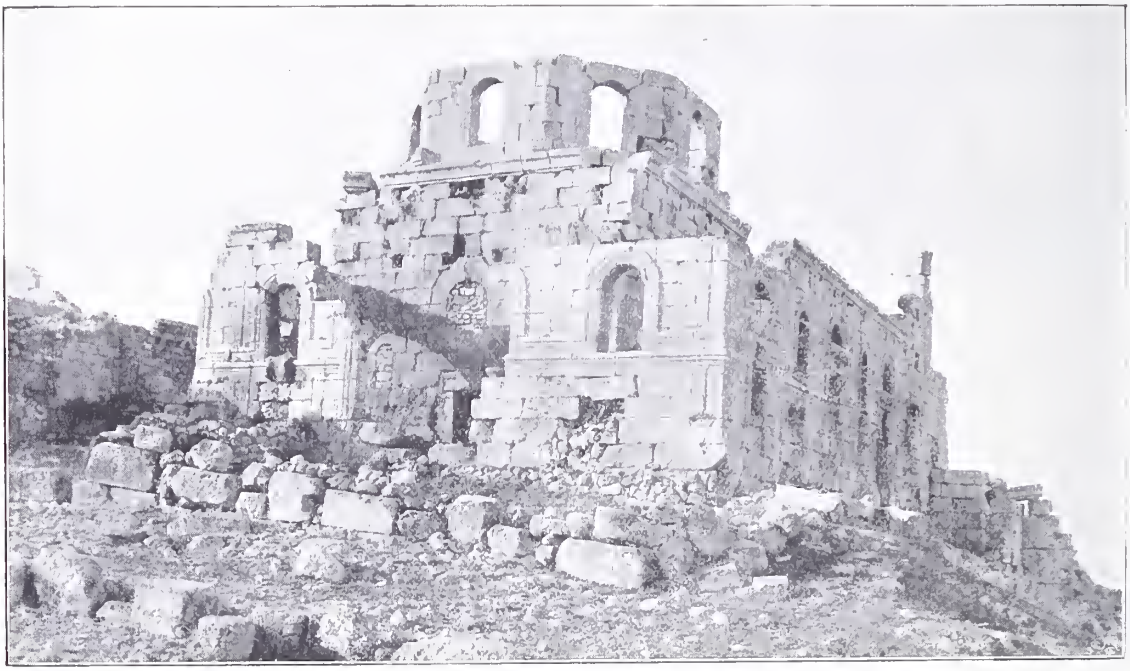
FIG. 2.—KUL'AT SIMÂN. OCTAGONAL CHURCH.

plate 33, and projecting corbels are shown on either side of the lower colonnade, which, though found in other examples, are non-existent in the Serdjilla house.

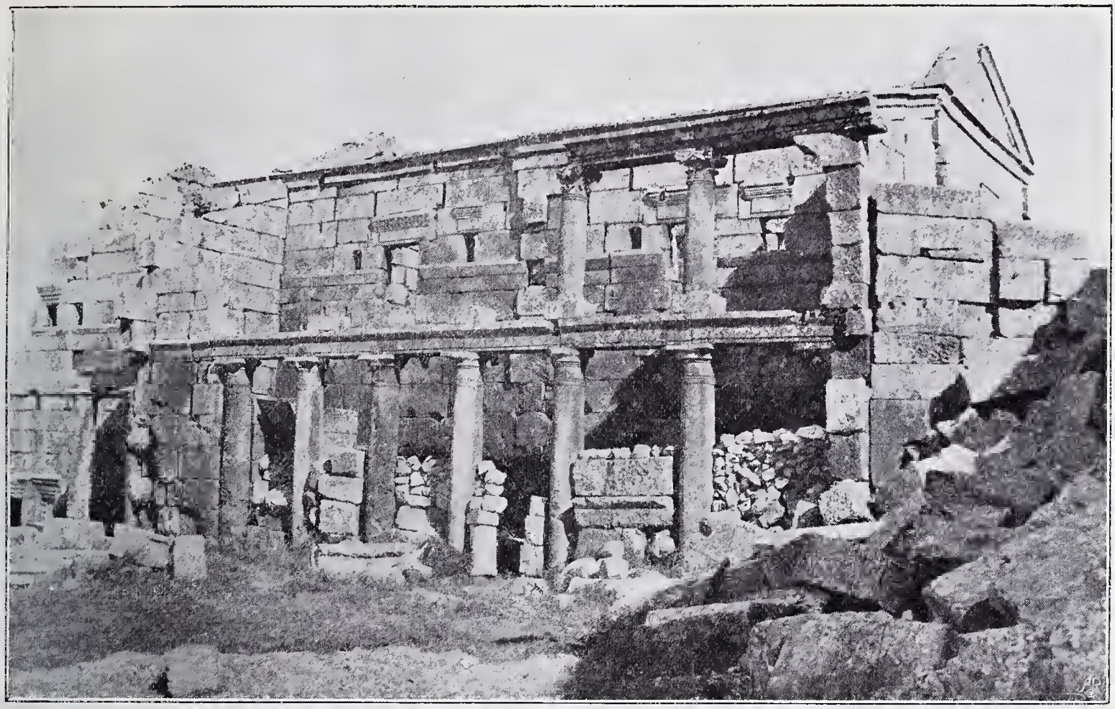

FIG. 3.—HOUSE AT SERDJILLA.

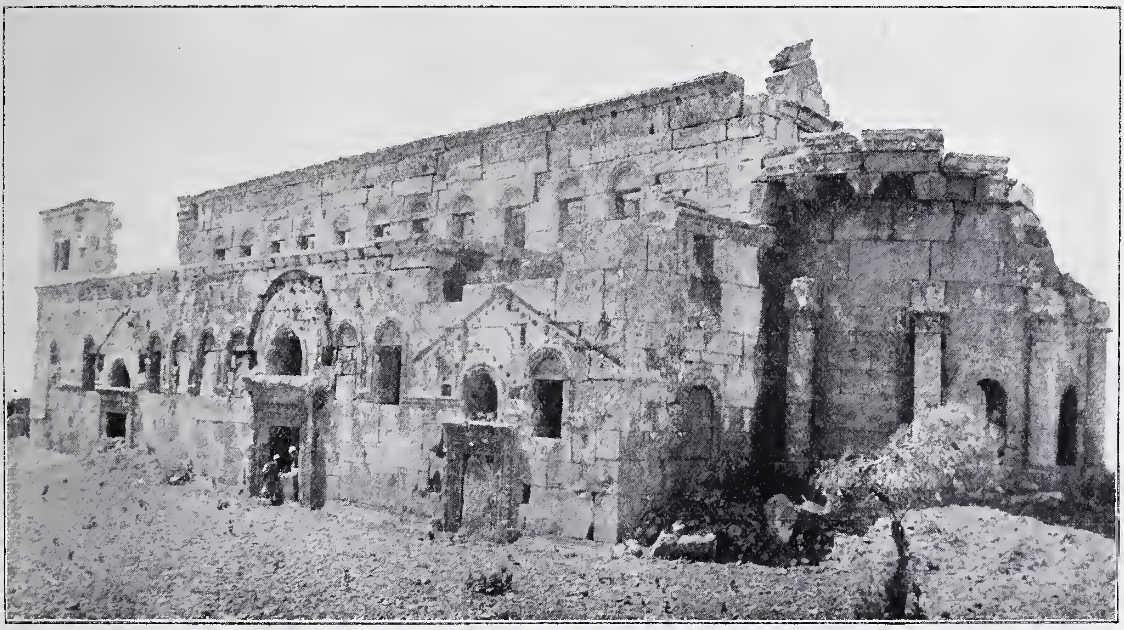

FIG. 4—KALB LOUZY.

Again, in fig. 4 the masonry of the upper part of the apse of Kalb Louzy is in two courses only, whereas four are shown in plate 125. These, however, are slight inaccuracies not of very much importance; but fig. 5 shows a much more serious error made in plate 126, because the artist has unwittingly drawn in the arches of the nave with a nearly circular extrados, whereas in the reproduction of the photograph it will be seen that it is extremely irregular in its construction. Insufficient projection also is given to the upper corbels carrying the tie-beams of the roof, and the bold projections of the impost mouldings are quite lost sight of in the feeble contour as shown in plate 126. The carved keystones also are omitted in the plate. The irregular construction of the extrados of the voussoirs of the arches is one of those features found in Syrian masonry which seem to be peculiar not only in the Christian but in the Roman work. Renan attributes this faulty construction to the traditions of the Phœnician mason, whose architecture was essentially monolithic. When the Phœnician was unable to cut his dwelling or temple out of the solid rock he built with megalithic blocks, and subsequently carved out features belonging to other styles without any due sense of their meaning. Thus it is not infrequent to find capitals and portions of shafts cut out of the same block, and the same with bases. In the construction of arches voussoirs of immense depth were employed, with the extrados fitting haphazard with the horizontal courses above, and then to emphasise and give a decorative value to his arch the Phœnician architect carved his archivolt mouldings on the lower portion only, losing therefore that which in the regular arch is its chief constructive value, viz. its elasticity. In the immense doorways to their temples, the width of which was too great to allow of their being spanned by a single stone, the Roman architects employed voussoirs and built a straight arch; as, however, the architrave was not high enough to give the required depth to the voussoirs,

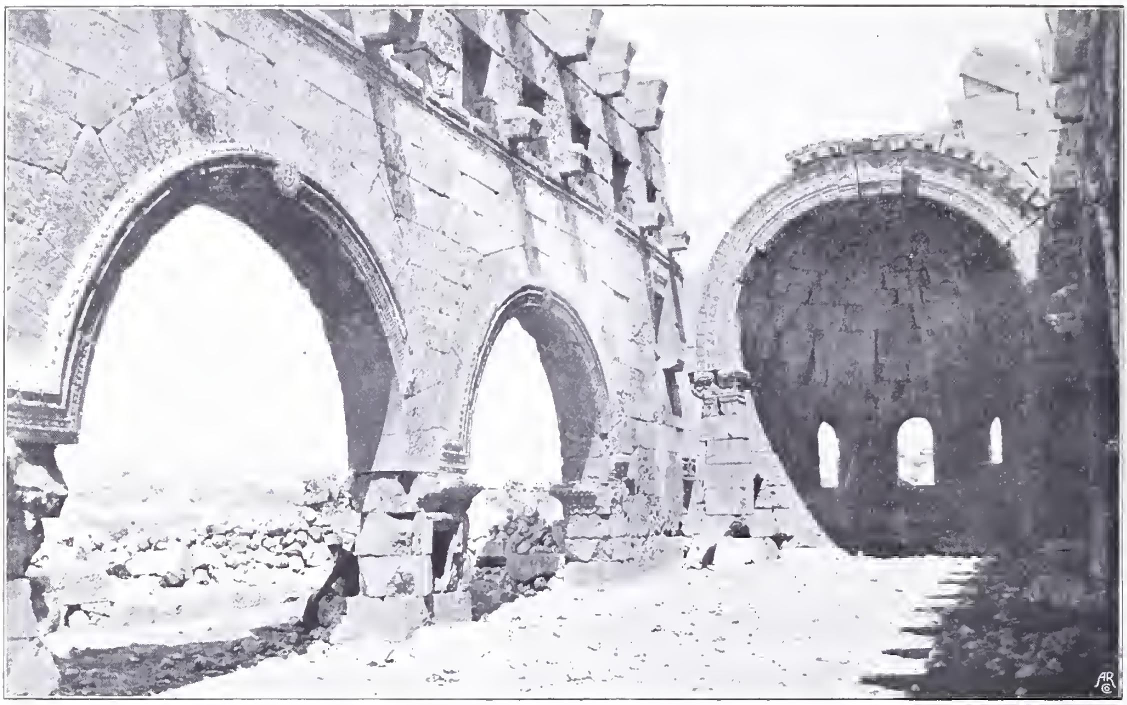
FIG. 5.—KALB LOUZY

they were carried through the frieze as well; and the Christian architects, therefore, may have conceived the idea that architrave mouldings and friezes were purely decorative features, with no constructive meaning, and therefore dealt with their arches in the same way. It is remarkable that with such a lack of the elementary rules of construction, they should have produced such fine works as those which are illustrated in M. de Vogüé's *Syrie Centrale*, and that these buildings should have withstood so well the ravages of time and the shocks of occasional earthquakes. Unfortunately now another destructive element is creeping in; some of the deserted towns are being reoccupied, and within the last few years the famous Prætorium of Mousmieh (160–169 A.D.), illustrated on plate 7 and described on p. 45 in M. de Vogüé's work, has been pulled down to make way for a more modern erection. Of the famous church at Tourmanin (plates 130–136), the finest and most remarkable of the Christian churches in Syria, the triple apse only remains, and already, since M. de Vogüé's visit, many parts of the church at Kul'at Simân have given way, and its magnificent south porch, to judge by its condition as shown in photographs, can scarcely hold together much longer.

R. PHENÈ SPIERS, F.S.A.

ARCHITECTURE OF THE FIFTEENTH CENTURY AND THE EARLY TUDOR PERIOD.

By CHARLES M. HADFIELD [*A.*].

Read before the Sheffield Society of Architects, 13th March 1900.

IT was in the midst of that period of universal upheaval and change, the sixteenth century, that the great epoch of English national architecture, which had flourished and developed for some 400 years, came to a close—thrust aside, as it were, by the invading spirit of the Renaissance, or, as some critics would say, by a natural process of decay which follows on all completed development. Diverted, at all events, at that date into a current whose force was then irresistible, it has continued its flow in the new channel down to our own day; and although, during the century now approaching completion, we have removed the reproach which previously attached to us of ignorance and indifference as to our own national traditions, all the circumstances of to-day go to prove the fact that it is this spirit of the Renaissance by which we are still mainly dominated. This is proved by the architectural literature of the last few years as well as by the evidence of the most important modern buildings; and one cannot avoid the reflection that whilst we still profess, as an ideal, the attainment of a national and progressive style of building, we ignore more and more, as time advances, the essential means to such an end, to wit, an unwavering fidelity to the traditions of our native work.

When, almost a hundred years ago, interest in the study of English architecture began to revive, the work of the culminating or fifteenth-century period was the first to receive attention, and not unnaturally. Long after the Renaissance had taken root the old traditions lingered on, and it might be said that in certain directions, and in remote places, they were never entirely eradicated. The great issue of this first phase of the movement was, of course, the erection of the Houses of Parliament, a building which, conceived as it was when knowledge of the style was in its infancy, still ranks as perhaps the most distinctive of our national works of the nineteenth century.

As the so-called Gothic revival unfolded itself, and became enslaved by false and pedantic ideas, an unfortunate attitude was adopted towards the work of this period, and now that the movement has paid the penalty of its errors and extravagance we find dispassionate students and critics ready once more to recognise the facts of our architectural history in their true proportion and value. Two extracts will serve to illustrate my meaning more clearly. The first is from the *History of Henry VII.'s Chapel at Westminster*, by Lewis N. Cottingham, published in 1829. He says: "I come now to the third class of pointed architecture. The development of this style, like the two preceding, was gradual, but had sufficiently established itself in the reign of Richard II.

to form a distinct class which, with the usual modifications ever attendant on the wants and luxuries of civilised society, continued until its unjust and extraordinary extermination in the reign of Henry VIII. This style has, by some fastidious critics, been considered as a debasement when compared with the earlier works; but let us consider the causes of the alteration, and we shall then, perhaps, have more reason to admire than to condemn."

The second quotation is from a lecture delivered in 1898 at the Glasgow School of Art by the late Mr. W. J. Anderson. The title of the lecture was "The Complete Gothic Style," and the view taken was that the work of the Perpendicular Period (1377–1547) was the distinctively English interpretation of the Gothic style, and that instead of being the decadence it contained within itself the culmination of the English style. In St. George's, Windsor, and King's College, Cambridge, the Gothic ideal was for the first time expressed in distinctively English terms, and up to this consummation all previous steps had been leading. That English architecture was a development, ruled and directed by the gradual growth of skill and knowledge and by social advancement, and not a "style" in the stereotyped sense which has made that word one of such hateful import since the Renaissance first brought the idea into existence, is a fact which the study of its latest phase makes very plain. Nothing brings it home to the student more clearly than the great skill and success with which at every stage of its progress new work was intermingled with or, so to speak, welded on to that of preceding periods, old plans and proportions being preserved or modified, in order to bring them into harmony with improved ideas and requirements.

In this connection the names of Gloucester and Winchester Cathedrals will at once occur to you, the former claiming chronological precedence, and being indeed sometimes put forward as the actual building in which so-called "Perpendicular" architecture was originated. The plan, as we see it at the present day, gives us practically the whole outline of the great Norman church built by Albert Serlo, the first Norman abbot, and completed in 1100, and I think it shows clearly the meaning of Professor Willis when he states that "the building is in conception a Norman building from bottom to top." How this Norman church was converted, on the existing plan, between 1337 (when Abbot Wygemore altered, recased, and vaulted the south transept) and 1500—just before which date the Lady chapel was completed by Abbot Farley—into the form in which we know it to-day pictorial illustrations will show, but neither these nor verbal description can possibly give an adequate idea of the constructive ingenuity and boldness of planning which a careful study of the work itself will reveal. The beginning of the prosperity of the abbey, as it then was, dates from the interment of King Edward II. within its walls, and the consequent importance it acquired as a place of pilgrimage. The monument of this unfortunate king, erected in 1334, gave the impetus to the work of reconstruction which commenced immediately afterwards, and in the very earliest of which we see perpendicular forms taking definite shape. The recasing and vaulting of the choir and presbytery were carried out under Abbots Staunton and Horton, between 1337 and 1377, during which period the north transept was completed, and the celebrated cloisters were also built as far as the chapter-house, their completion being effected under Abbot Froucester between 1381 and 1412. Of this work in the choir the description given by Mr. F. S. Waller in *The Builder* as "a really magnificent design" is not undeserved. The cloisters of Gloucester are so familiar through the fascination they have exercised over architectural draughtsmen that it is needless to solicit admiration for them. Attention, however, may be drawn to the early date of the work, a fact which has led Professor Willis to suggest that it was here that fan vaulting was first produced.

New College, Oxford, is an important link in our history, serving to remind us on what enduring foundations those men rest their fame who provide for the future growth and cultivation of knowledge. Mr. T. G. Jackson tells us "that New College has served as the model which all succeeding colleges at Oxford copied more or less closely" . . . and that "till the magnificent foundation of Wykeham there was no example of a college built on a consistent plan and completely furnished with chapel, hall, lodgings, kitchen, cloisters, and cemetery, all grouped round a central quadrangle and conforming to one consistent architectural design." The founder's original work remains in the chapel and hall, the cloisters, bell tower, the entrance and great front quadrangle. The chapel is a design of exceptional grandeur. Its noble proportions give it a precedence amongst its fellows, even in Oxford, and as it was the first type so it may be said to be an unsurpassed one of a collegiate chapel, if we except only its great successor—that of King's College, Cambridge. The plan is in the shape of the letter T, and consists of two oblongs, the chapel proper, having a length of some 120 feet to the arcaded screen carrying the organ loft, by a width of 30 feet, and the ante-chapel, about 72 feet by the same width. The latter is planned in three compartments, divided by lofty triple arcades, the central one carrying forward the width of the chapel itself, and the two side ones or aisles being each 18 feet wide. These simple proportions are well worth noting in view of the great effect of scale obtained. The reredos, which has of late years had its niches once more filled with statues, is, like its smaller companion in All Souls' Chapel, a valuable example of the treatment accorded to the chief decorative feature of a church interior, the grandest remaining example of this being the great reredos of Winchester.

The last and greatest undertaking of Wykeham's life, the reconstruction of the nave of Winchester Cathedral, is a work which, from its historical and monumental importance, must be placed in the forefront of any account of English architecture. To the general observer, and perhaps also to the student of architecture, the first impressions of Winchester may not be those of unbounded enthusiasm. The stranger from the north, setting forth unaccompanied, and probably having to seek direction on his way, when he first stands within the close and looks down towards the building from the long avenue leading obliquely up to the west front, will be at some loss to realise that he has before his eyes the "largest mediæval church erected in England with the exception of old St. Paul's, London, and the largest cathedral of Northern Europe." The reconstruction of the Norman nave of Bishop Walkelin (A.D. 1093) was taken in hand by William of Wykeham's predecessor, Bishop Edington, under whose auspices were carried out the west front (a piece of work which has been the theme of much disparaging criticism) and the two adjoining bays of the nave on the north side and one on the south side. This was carried out between 1346 and 1360, and shows us the earliest phase of the style. But to speak of general effect: the most critical and well-balanced judgments are at one with those of its enthusiastic admirers in praise of the nave of Winchester as the most stately and magnificent church interior of which England can boast. So happily are its proportions adapted to each other that the preponderating length appears even greater than it is, whilst width and height are in almost perfect harmony, the former subordinated to the sense of loftiness, yet never tending, even when furthest from the eye, towards narrowness. Both width and height are brought to their proper keynote of value by the splendid vault of close on 400 feet, its full length being seen at once, fading away in a long-drawn-out and unbroken perspective beyond the comparatively low choir screen, and growing up from the nave columns with a rare sweep and gracefulness of outline, a combination such as few buildings in the world can rival. To linger inside on a summer evening and watch the sunlight from the great west window gradually fading out, and the twilight shadows spreading over towards the middle distance, is a sight calculated to stir the imagination, and to make one realise what a great thing architecture can be and once was.

I have dwelt on these great representative examples which illustrate, as it were, the budding and unfolding into leaf of the completed phase of English architecture. In point of date we are still standing on the threshold of the fifteenth century, and for another hundred years or more the tree continued to flourish in all its branches with a vigour scarcely diminished to the last, and to put forth a great body of work which, whatever modern critics may say, was distinctively English, and solved all the essential requirements of the architecture of a civilised and cultured state of society. In dealing with such a period I cannot, within present limits, attempt to describe in detail all even of its most noted achievements, but I must confine myself to a passing notice of a certain number of representative works, works such as, by universal acclaim, belong to the first rank of works of art. Taking ecclesiastical buildings first, let us begin with a classic example, viz. the chapel of King's College, Cambridge.

This building is not only one of the great masterpieces of its own style, but it has come to rank among the world's most celebrated buildings, one of those works whose celebrity is quite independent of the details and attributes of style, and rests on its sheer grandeur of conception and proportion. Its execution extended over a great part of our period, for it was commenced by King Henry VI. in 1461. The main fabric was not finished till 1513, another twenty years elapsing before the interior was entirely finished. Any allusion to King's College Chapel would be incomplete without some mention of its magnificent original painted windows, executed between 1516 and 1535. One hears much nowadays about the value of colour in architecture, and the coldness to which our mediæval interiors are reduced by the absence of it, but even the finest painted decoration will seem a poor thing to anyone after he has seen King's College Chapel, with the sun streaming through its windows and bathing the long vista of moulded vaulting piers, behind which the windows themselves lie hidden in perspective, in a flood of living, sparkling colour. The cultivation of colour did not suffer much neglect at the hands of designers who knew the secrets of such effects as these.

Taking East Anglian work, the great tower of Boston Church naturally claims attention. It belongs to the early part of the fifteenth century, and is said to have been influenced by some of the great Flemish campanili of the period, such as those of Malines or Antwerp. If the latter inspired it, probably few will be found to deny that the model was improved upon. The Church of St. Peter Mancroft, Norwich, is a remarkably fine and complete example of a perpendicular church. It belongs to the first half of the fifteenth century. Its total length is 212 feet. The treatment of the clerestory is very effective and a good instance of a feature which developed into one of great importance at this date. The open roof over the nave, with its happy idea of a groined cove framing the clerestory and gracefully carrying down the lines of the principals on to the vaulting shafts, will be familiar to students from the drawing in Rickman's *Gothic Architecture*.

Passing now to an opposite part of the country, with an individuality of its own quite as strong and distinctive as that of East Anglia, viz. the county of Somersetshire, we may select as examples the two churches of St. Cuthbert, Wells, and St. Mary Magdalene, Taunton. A finer design of its kind than the tower of the first-named church would certainly be hard to find, and it is an illustration of the truth one constantly learns from studying these late English buildings that the elements of successful and striking design are to be found in simple arrangements of outline and telling proportion, rather than in excessive complication of detail or subdivision of parts.

Two churches may fitly represent the work of the Midlands. The first, that of St. John the Baptist, Cirencester, introduces quite another type of design—the elaborate and unusual arrangement of the south porch, which really forms the lower story of what, I believe, still serves as the Town Hall buildings. The other is the spire of St. Michael's Church, Coventry, erected between 1373 and 1395, more fortunate than its greater neighbour in remaining untouched (though probably not for very long) by modern restorers.

To form an idea of the high state of craftsmanship at this period nothing is more useful than to study the tombs and monuments of eminent persons with which its great churches abound. Here we shall often find examples of the most elaborate workmanship in marble or alabaster used in conjunction with metal work wrought and cast, enamelling, or painted decoration. The use of heraldry gave full scope for ornamental enrichment, and being a language expressed in decorative terms, it solved a problem over which we stumble sorely nowadays, viz. how to find a *raison d'être* for architectural ornament, providing the building in which it appears with decoration having a purpose and meaning. The tomb of Richard, Earl of Warwick, in the Beauchamp Chapel at Warwick, is probably as complete an example of English Mediæval craftsmanship as we could desire. Blore's *Monumental Remains* contains a copy of the original agreement between the Earl's executors and the different craftsmen by whom this important work was carried out. The document is interesting on account of a description of the methods followed in the execution of the art work of the time. The design is that of an altar tomb of grey marble, supported at the corners by moulded brass poles with the arms of Beauchamp and of France, England and St. George engraved on the extremities. The tomb is surmounted by a hearse of brass hoops gilded, covering the effigy of the Earl, which is cast in fine latten, a species of brass metal, richly gilded, and reposing on a table of brass also gilt. The workmanship displayed in this figure has been highly and deservedly extolled, and it may certainly be said that no finer piece of art craftsmanship exists in England. The canopies contain figures, also in latten, of relatives of the deceased, technically "weepers," and in the quatrefoils beneath are shields with armorial bearings enamelled on brass. In the smaller alternate canopies are similar figures of angels holding engraved scrolls.

I conclude my review with a cursory glance at the civil and domestic architecture. It is now that domestic architecture, as we understand the term, really commences. The gradual disappearance of the fortified type of dwelling, and the development in its place of the manor house, the frequent use in suitable districts of brickwork, and, later in the style, of terra-cotta, with the ready appreciation shown of their special characteristics and possibilities, all serve to show how readily the growing demands of social advancement were met. In truth, the sound principles on which the practice of constructive art then rested ensured success in grappling with every problem which presented itself. It is only by a return to these principles that architecture can be made to live again.

In considering this part of the subject one naturally turns to our great universities for illustrations, and especially to the city of Oxford, whose fortune it is, in these latter days, to exhibit to the world an example of a town made by English architecture. It has already occupied a share of our attention in tracing the career of William of Wykeham and his work at New College. To one of his scholars and second successor in the see of Winchester, William of Wayneflete, we owe that most delightful of all its colleges—Magdalen—famous for its picturesque situation, the diversity of grouping, the richness of detail which its buildings present, and, above all, for its celebrated tower. This is a later work than that of the founder, having been commenced in 1492 and finished in 1507, its erection being vaguely connected with Cardinal Wolsey, who was bursar of the college at the time, so that we see in it a work belonging quite to the last days of the style of which it ranks as a masterpiece. There are few spots where one realises better than round about Magdalen an ideal of the union of an English landscape with architecture. The founder's work is well represented in the Founder's Tower and Cloisters. Before leaving Oxford I may mention the Divinity School (built between 1445 and

1454, and completed in 1489), which forms the lower story of Duke Humphrey of Gloucester's Library afterwards enlarged and now known as the Bodleian.

I may remark on the fact that one of the traditions which even the confusion of modern ideas has not been able wholly to obscure is that of the type of an English public hall or interior, such as was developed during this period. The influence of those fine apartments, such as the old halls of colleges or inns of court, halls like that of Hampton Court and many another, seems still to assert itself in the design of similar things to-day, despite the prevailing eclecticism. St. Mary's Hall, Coventry, the hall of the Ancient City Guilds of Coventry, erected between 1394 and 1414, is a good example. It is an oblong apartment about 75 feet × 33 feet, with a raised platform 18 feet deep across the north end and a wooden gallery across the opposite one. It has a remarkably fine carved and panelled oak roof, and the fenestration is very dignified.

Cambridge has scarcely been so fortunate as its sister university in preserving for us the original character of its collegiate buildings. Bishop Alcock's college, " Jesus," retains much of the old charm, and in the gateway of St. John's we have a stately and interesting design in brick and stone work, and one which illustrates the use of heraldic decoration to which I have already alluded. It was built about 1510, and the sculpture represents the arms, with supporters and badges, of the foundress, Lady Margaret Beaufort, mother of Henry VII.

The largest and most important example of English domestic work is, undoubtedly, Henry VIII.'s and Cardinal Wolsey's palace at Hampton Court. In these extensive buildings we possess a field for the study of secular architecture as fertile in suggestion as Winchester affords us for ecclesiastical work. In our own neighbourhood (Sheffield) we possess, in Wingfield Manor and Haddon Hall, two notable buildings, the latter one of world-wide renown, in which English domestic architecture may be thoroughly studied and understood.

It would be presumptuous in me to attempt to appraise the general results of the Renaissance movement of the sixteenth century, or to give an opinion on its achievements in the sphere of literature, painting, and other arts, but I do think that so far as English architecture is concerned its advent marked the end of all true progress, and the history of the last three hundred years, despite the compensating records of individual genius, is the history of a reaction. Without national traditions no art, and architecture least of all, can hope to flourish in the true sense of the word, or to produce work of permanent value, and the fact that our continuity of tradition was destroyed by the Renaissance is too vital to be explained away or to be glossed over. If we had kept this national ideal constantly in view, instead of turning aside from it, just when the seeds of knowledge cultivated during the middle years of this century were ripening with the promise of a good harvest, we might perhaps, even now, have been once again ministering to a progressive architecture, and carrying it forward beyond the point at which our sixteenth-century predecessors laid it down when the deluge came upon them. However, this is an unfulfilled hope, and I am afraid we must trace its disappointment to the eagerness with which erroneous ideas as to what constitutes real originality in design have been pursued during recent years. Fortunately we have the remedy in our own hands, and there is no need to be pessimistic about the future. It only rests with those who have made the production of building their work in life, to apply the knowledge gathered, during the past century, in the light of the principles it embodies, remembering always that they are English architects with a great past, and endeavouring, as far as may be possible, to resume the broken continuity with those days when their craft worthily represented the progress and commemorated the history of the English race.

THE SUPPORTING POWER OF ROCKS AND SOILS.

EXPERIMENTS AT CALCUTTA.

By Hugh Leonard [*H.A.*], *Science Standing Committee.*

On commencing several new buildings in Calcutta in the year 1873 it was considered desirable to test the actual weight Calcutta earth would bear without allowing buildings to sink, as great sinking had occurred in many of the existing structures. A piece of ground was selected fairly representing the average sites of Calcutta buildings, and on this site experiments were made by building blocks of masonry as ordinarily used in work, laying the foundations at various depths, and then loading the blocks with railway rails, and testing the sinking from a fixed point daily. The tables appended show the results.

The formation of the delta ground in and about Calcutta, and where the tests were carried out, is as follows:—Surface, and for 2 feet in depth, rich soil; for the next 4 feet, fairly compact bluish clay, quite dry; next 4 feet brownish clay of some consistency, also quite dry; then brownish clay, but mixed with sand and not so dry, for 8 feet; then a layer of impure peat, about 2 feet, fairly dry; then sand and clay, very wet.

The result of the tests showed that, for Calcutta, the weight on the foundations should not be more than 1 ton to the superficial foot, consequently the foundations of all future buildings were spread so as to put not more than this weight on the earth. Since this has been done no sinking or cracking of new buildings has occurred.

Experiments made at Akra for the purpose of testing what weight the ordinary undisturbed alluvial soil of Calcutta, which fairly represents Lower Bengal Delta soil, can bear.

Number of experiments	Depth below surface of ground	Size of Pier constructed	Total height of Pier	Materials	Total contents of Pier	Weight of Pier at 100 lbs. per c. ft.	Superficial area of Pier	Age of Pier	Load, excluding weight of Pier	Weight per sq. ft., *including weight of Pier*	Result of Loading		Remarks
											Days	Sinking	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Ft. In.	Ft. In.	Ft. In.		C. ft.	Tons cwt. qr. lbs.	S. ft.		Tons cwt. qr. lbs.	Tons cwt. qr. lbs.			
1[1]	1 4	3 $2\frac{1}{2}$ square	2 $11\frac{1}{4}$	Bricks with mortar, two of soorkee[2] to one of lime	30·88	2 3 0 8	10·29	6 days	41 0 0 0	4 3 3 13·8	1st 2nd 3rd	$\frac{7}{8}$ $3\frac{5}{8}$	The pier sank $3\frac{5}{8}$ inches with this load by compressing the ground on which it stood; the surrounding ground was not visibly disturbed, except for a distance of about 2 or 3 inches immediately in contact with the pier, which seemed to be caused by friction on two sides, the load being slightly in excess on those sides From this experiment it would appear that only the ground under the masonry sinks, the surrounding ground not being disturbed to any appreciable extent
2[3]	2 6	3 $2\frac{1}{2}$	5 $0\frac{1}{2}$	Ditto . . .	51·89	2 6 1 9·4	10·29	—	10 7 3 8	1 4 2 20·3	1st 2nd 3rd	$\frac{3}{16}$ $\frac{1}{4}$ $\frac{5}{16}$	Immediately on lowering screw jacks[4]

3	2	6	3	$2\frac{1}{2}$	5	$0\frac{1}{2}$	Ditto . . .	51·89	2	6	1	9	10·29	—	20	14	2	19	2	4	3	5·6	1st 2nd 3rd 4th 5th 6th 7th	1 $1\frac{3}{4}$ $1\frac{13}{16}$ $1\frac{7}{8}$ 2 $2\frac{1}{8}$ $2\frac{1}{8}$	On lowering screw jacks
4	2	6	3	$2\frac{1}{2}$	5	$0\frac{1}{2}$	Ditto . . .	51·89	2	6	1	9	10·29	—	31	1	2	3	3	4	3	17·2	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th	$5\frac{1}{8}$ $5\frac{1}{2}$ $5\frac{1}{9}$ $5\frac{1}{2}$ $6\frac{5}{16}$ $7\frac{5}{16}$ $7\frac{7}{16}$ Not measured $7\frac{7}{16}$ $7\frac{11}{16}$	On lowering screw jacks Very heavy rain fell on the night of the 4th The sinking of this block is considerably more than in experiments which were 4 feet and 8 respectively below the ground level; a good deal of rain fell during the time this experiment was in progress, and the soil to the depth of foundation was, no doubt, saturated It shows fairly the danger of shallow foundations
5	4	0	2	$9\frac{1}{2}$	5	9	Ditto . . .	42·12	1	17	2	12	7·76	—	7	16	2	21	1	5	0	4·3	1st	$\frac{3}{16}$	Immediately on lowering the screw jacks. No further sinking took place with this weight for a space of seven days
6	4	0	2	$9\frac{1}{2}$	5	9	Ditto . . .	42·12	1	17	2	12	7·76	—	15	10	3	22	2	4	3	17·4	1st 2nd 3rd 4th	$\frac{9}{16}$ $\frac{15}{16}$ $\frac{15}{14}$ $\frac{15}{14}$	No further sinking took place
7	4	0	2	$9\frac{1}{2}$	5	9	Ditto . . .	42·12	1	17	2	12	7·76	—	23	5	0	24	3	4	3	5·2	1st End of 1st 3rd 5th	$1\frac{1}{4}$ $2\frac{5}{8}$ 3 $3\frac{1}{4}$	On lowering screw jacks No further sinking The Executive Engineer states, "heavy rain fell during part of the time of the last loading, by which the ground was flooded, and most probably water percolated to the foundation. This, combined with very strong wind blowing from the south and east, caused the unequal settlement of the block"
8	8	0	3	$2\frac{1}{2}$	10	$6\frac{1}{2}$	Ditto . . .	108·50	4	16		14	10·29	—	10	6	0	20	1	9	1	22·5	1st	$\frac{3}{16}$	No sinking was observed from the 2nd to the 7th day

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[1] The object of this experiment was to ascertain whether the ground under the masonry alone is compressed, or whether the compression extends for some distance round the foundation.

[2] "Soorkee" is red brick ground to dust.

[3] The object of this and the eleven following experiments is to show the compression of the soil at different depths, and under different weights.

[4] A frame carrying the load was supported by screw jacks at each corner during the work of loading so as not to disturb the masonry during the process of loading; when the desired load was on, the screw jacks were lowered, and the load was brought to bear on the masonry.

Experiments made at Akra for the purpose of testing the ordinary undisturbed alluvial soil of Calcutta—concluded.

Number of experiments	Depth below surface of ground	Size of Pier constructed	Total height of Pier	Materials	Total contents of Pier	Weight of Pier at 100 lbs. per c. ft.	Superficial area of Pier	Age of Pier	Load, excluding weight of Pier	Weight per sq. ft., *including weight of Pier*	Result of Loading: Days	Result of Loading: Sinking	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13	14
	Ft. In.	Ft. In.	Ft. In.		C. ft.	Tons cwt. qr. lbs.	S. ft.		Tons cwt. qr lbs.	Tons cwt. qr. lbs.			
9	—	3 $2\frac{1}{2}$	10 $6\frac{1}{2}$	Bricks with mortar, two of soorkee to one of lime	108·50	4 16 3 14	10·29	—	20 13 0 3	2 9 2 5·9	1st	$\frac{9}{14}$	
											2nd	$\frac{9}{16}$	
											3rd	$\frac{5}{8}$	
											4th	$\frac{11}{16}$	
											5th	$\frac{11}{16}$	
											6th	$\frac{11}{16}$	
											7th	$\frac{11}{16}$	
10	—	3 $2\frac{1}{2}$	10 $6\frac{1}{2}$	Ditto . . .	108·50	4 16 3 14	10·29	—	30 19 3 14	3 9 2 17·4	1st	$1\frac{1}{8}$ $1\frac{5}{8}$	The result of this experiment tends to show that the bearing power of soil at 8 feet depth is no better for light weight than at 4 feet, but for heavy weight it seems to bear more
											3rd	$1\frac{11}{16}$	
											4th	$1\frac{11}{16}$	
											5th	$1\frac{3}{4}$	
											6th	$1\frac{3}{4}$	
											7th	$1\frac{3}{4}$	
											11th	$1\frac{3}{16}$	
11	11 0	3 $2\frac{1}{2}$	14 $0\frac{1}{2}$	Ditto . . .	144·53	6 9 0 5	10·29	—	10 7 3 27	1 12 3 0·8	1st	Nil	On lowering screw jacks
											End of 2nd	$\frac{3}{16}$	Extra load put on to make the weight equal to a ton to the foot, exclusive of brickwork
											3rd	$\frac{7}{16}$	
											4th	Sunday	
											5th	$\frac{13}{16}$	
											8th	$\frac{7}{8}$	
											9th	$\frac{15}{16}$	In this and the two following experiments the foundation carried more than in the preceding experiments. But even allowing for this, the ground seemed to be capable of bearing less at 11 feet than at 4 or 8 feet
											10th	1″	
											12th	1″	
											13th	$1\frac{1}{16}$	
12	11 0	3 $2\frac{1}{2}$	14 $0\frac{1}{2}$	Ama[5] bricks with mortar, two of soorkee to one of lime.	144·63	6 9 0 5	10·29	—	20 17 0 23	2 13 0 9·5	1st	$1\frac{1}{2}$″	On lowering screw jacks
											2nd	3″	
											3rd	3″	
											4th	3″	
											5th	Sunday	
											6th	$3\frac{1}{8}$	
											7th	$3\frac{3}{16}$	
											8th	$3\frac{3}{16}$	
											9th	$3\frac{7}{16}$	

13	11 0	3 $2\frac{1}{2}$	14 $0\frac{1}{2}$	Ditto ditto .	144·63	6 9 0 5	10·29	—	31 4 0 6	3 13 0 20·5	1st 2nd 3rd 4th 5th 6th 7th 8th 9th 10th 11th 12th 13th 14th 15th 16th 17th 18th	$3\frac{3}{4}''$ $6\frac{11}{16}$ Sunday $6\frac{7}{8}$ $6\frac{15}{16}$ $6\frac{15}{16}$ 7 7 $7\frac{1}{16}$ Sunday $7\frac{1}{8}$ Not measured $7\frac{1}{8}$ $7\frac{13}{16}$ $7\frac{13}{16}$ $7\frac{1}{4}$ Sunday $7\frac{5}{16}$	On lowering screw jacks I think the greater sinking in the case of this pier may be explained in this way. At a depth of 11 feet, the ground, which gets soft, *rose* before the load was put on, and hence sunk more when again under heavy pressure
14[6]	4 0	2 10	7 $4\frac{1}{2}$ square	Third class Akra bricks with mortar composed of two of soorkee to one of lime	59·20	2 12 3 12	8·03	15 days	8 0 0 0	1 6 2 0·7	1st 7th 14th	$\frac{1}{8}$ $\frac{1}{4}$ $\frac{5}{16}$	The pier, loaded with one ton per foot, was left standing for three months, but no further sinkage than what was recorded on the 14th day was discovered during the remainder of the time

[5] "Ama" means badly burnt bricks.

[6] The object of this experiment was to ascertain if, without adding weight, sinking occurred from long standing.

SUMMARY.

No.	Depth of Foundation below surface of the ground	Maximum Sinking with Weight per Square Foot of—			Remarks
		1 ton	2 tons	3 tons	
1	2	3	4	5	6
		Sinking			
		Inch	Inch	Inch	
1	2 feet 6 inches	$\frac{5}{16}$	$2\frac{1}{8}$	$7\frac{7}{8}$	
2	4 feet	$\frac{3}{16}$	1	$3\frac{1}{16}$	Including the weight of brickwork
3	8 feet	$\frac{3}{16}$	$\frac{11}{16}$	$1\frac{13}{16}$	
4	11 feet	$1\frac{1}{16}$	$3\frac{1}{2}$	$7\frac{1}{2}$	Exclusive of ditto

ARCHITECTURAL EDUCATION IN THE UNITED STATES OF AMERICA.

By Arthur Cates [*F.*].

THE attention of the Institute has from time to time been invited to the great advance made in recent years throughout the United States, in the organisation and development of a complete systematic course of architectural education, in the forefront of which movement our esteemed and respected Honorary Corresponding Member, Professor William R. Ware, now of Columbia University, N.Y., has been the active and influential leader and organiser.

In the late "forties" and early "fifties" many smart young architects went from London to the States, and there speedily attained to good and influential positions, prospering greatly; but as London did not afford any opportunity for sound systematic artistic education, the young American student did not come here for the instruction which he sought, but a steady stream of earnest aspirants flowed to Paris, where, in the ateliers of distinguished architects, and in the Ecole des Beaux-Arts, they found the instruction and guidance they desired.

This special training of those who now occupy leading positions in the profession, and the developments which have followed the persistent teaching and exertions of Professor Ware, have so influenced the progress of education in the States that the student, if he has not already done so, may soon hope to find at home sources of instruction which will render the course in Paris less necessary, and even a comparatively superfluous luxury. It has even been suggested that at no distant period, the ambitious English student who may desire to prepare himself for the effective practice of Architecture, and go through a complete course of technical and artistic training, may find it expedient to resort to one of the American Universities, and there obtain that thorough education which sluggish indifference to educational advancement, and blind adherence to the antiquated and effete system of pupilage, does not afford him here.

The old system of apprenticeship, where one or two apprentices were practically instructed by a skilled master in the mysteries and details of a trade or profession, had undoubted advantages, bringing to bear on the youth the continuous personal and almost parental influence of a master by whose direct instruction he could learn to adapt and carry out intelligently the ideas resulting from many years of experience and study; but although there may be some cases in which a pupil of these days may enjoy similar advantages, the stress and struggle of modern life, the wide range of knowledge and acquirements now necessary to ensure success, and the changed relations between master and pupil, render a systematic course of strictly professional education most desirable as a prelude to entry on the active business of an office.

In too many cases the education of a young architect in this country is limited to what he may "pick up" in the office, of which the payment by his parents of a considerable premium has entitled him—a lad raw from school who has not yet learnt how to learn—to have "the run"; where, if capable and industrious, he will be taught so far as may be necessary to enable him to take part in the office work, and to waste that time which should have been occupied in the completion of his education, to the still further advantage of his master, by taking the place of a paid assistant; or he may, if so disposed, cultivate artistic and dilettante indolence, and render himself incapable of thereafter taking an active part in the work of life. In either case his future position would be very different from that which he might have attained had the time so spent in the office been appropriated to systematic education.

The recent receipt of the Annual Report for 1899 of the President and Treasurer of the Massachusetts Institute of Technology, of Boston, U.S.A., and the Kalendar quaintly described as "The Annual Catalogue 1899–1900," affords the opportunity for noting many interesting particulars concerning the course of instruction in Architecture followed at the Massachusetts Institute.

The Massachusetts Institute, commenced as a School of Industrial Science, was opened in 1865 with 15 students, but has attained to so remarkable a development that the official staff now numbers 131 professors and assistants as "officers of instruction," 7 instructors in manual work, 30 teachers and lecturers, and numerous occasional lecturers in special subjects. For the department of Architecture there is a special staff, of a professor of architecture, a professor of architectural design, two assistant professors, an instructor, a lady assistant, and a teacher and lecturer on design, the necessary instruction in other subjects, such as mechanical and freehand drawing, mathematics pure and applied, geometry, perspective, stereotomy, languages (French and German), business law and relations, and the other items of the curriculum, being given by other members of the professorial staff.

This architectural course aims to prepare the students, not only for those years of work as subordinates, when accuracy, rapidity, and taste in drawing and design, with accurate knowledge of detail, will be most useful qualifications, but also for their subsequent independent career, when sound technical knowledge will be most important.

The full course extends over four years, the first being devoted to those preliminary studies which are essential to form a sound basis for the strictly professional course of the three succeeding years, in which the instruction comprises the study of construction and materials, of building processes and professional practice, of composition and design, and the history of Architecture. The course is arranged to meet the needs of those who are commencing their professional studies, as well as of experienced draughtsmen who desire to make up deficiencies in their training, or to qualify themselves for undertaking the responsibilities of practice. During the entire course there is regular instruction in freehand drawing, that of the last year being from life. For three years the students are continually engaged upon architectural design, each student's work being examined and criticised before the classes by a jury from the Boston Society of Architects. An option in architectural engineering is offered to students who intend to make a speciality of construction, and advanced courses in design, history, and construction are offered to graduates of the regular course.

In addition to the general library of the Institute for works of general reference, there are ten distinct libraries of special treatises, monographs, text books and periodical publications germane to the work of the respective departments, of which the architectural library contains nearly four thousand volumes of technical books and the leading American and foreign periodicals, a carefully selected collection of eleven thousand photographs, six thousand lantern slides, and a collection of casts of architectural sculpture and detail.

The studies are not limited to the University course: travelling students send measured drawings as "envois" from Rome, Florence, Bologna, &c., and a large number of graduates continue their studies abroad; a year of study and travel in Europe forming an excellent continuation of the regular course, especially when the studies are properly directed under scholarly supervision.

Study in the vacation is not overlooked: there is a Summer School of Architecture, which last year made a very profitable tour in Europe. Crossing the ocean to Genoa, the school visited Milan, Brescia, Verona, and Venice, and, making a bicycle tour from Genoa along the Riviera to Marseilles, visited Aix, Arles, Nîmes, Avignon, the Puy de Dôme, Vezelay, Sens, Troyes, and Paris—making measured drawings and sketches by the way, and taking over 700 negatives of important details and buildings.

These particulars of the development of systematic education apply in all general features, not only to the Massachusetts Institute, but to many other institutions throughout the States, of which it may suffice here to mention, the Harvard University, also in Massachusetts; the Columbia University, the Cornell University, the Syracuse University in New York City and State; also in Philadelphia the University of Pennsylvania, and in Chicago the University of Illinois, all with similar and not less efficient courses of instruction in Architecture.

At Harvard University, Cambridge, near Boston, Massachusetts, founded in 1638, the oldest and most distinguished of the teaching institutions of the United States, a department of architecture has within the last five years been established, and the high qualification required of students for admission to the University and the influence of the general environment have led to modifications of the scheme of study from those of the Massachusetts Institute, less time being given to general studies, and more to design and history; but the broad principles are similar, and the thorough systematic training of the students in the art and science of Architecture is the object aimed at.

As is the universal custom in relation to these institutions in the United States, liberal donations for buildings and endowment much facilitate the work. A recent gift of £40,000, by a benefactor whose name is not disclosed, will much advance the development of this new school, which has also the advantage of using the Fogg Art Museum, which contains a fine collection of casts and objects of art, over 26,000 photographs, 1,528 lantern slides, 28,000 prints and drawings, &c., illustrating the history of the fine arts.

The Austin Travelling Fellowship in Architecture, of the annual value of £200, is open to those who have taken with distinction the degree of Bachelor of Science in Architecture, this being the seventh endowment for travelling in Architecture which has been established in the United States.

The School of Architecture in the Columbia University is under the direction of Professor William R. Ware, whose successful exertions in the cause of architectural education and able addresses and writings are highly appreciated by those who are interested in the subject. In his remarkable Address of June, 1898, to the Architectural League of New York, he discusses the principles which should govern teaching in a school of architecture, and this deserves, no less than his other writings on the subject, careful study. The teaching staff of the Architectural Department numbers nine professors and lecturers expressly appointed, while fourteen officers of other departments give instruction in special subjects connected with the department.

The students have not only the privilege of using the fine general library of the University of some 250,000 volumes, but also the splendid architectural library placed at their disposal by Mr. and Mrs. Avery,* a fine collection of photographs, prints, and drawings, all classified and arranged according to their subjects, and the Willard collection of architectural casts and models, probably the most carefully selected and best arranged, if not the largest, of any in the world.

Professor Ware warmly urges the cultivation of individuality in the students, so that, while strictly conforming to certain requirements, they shall at every stage of their work have a degree of latitude and freedom, always finding some necessary element to supply from their own taste and intelligence, thus tending to develop in every student whatever independence of character and spark of originality he may chance to possess.

Professor Ware further expresses his views in the following admirable sentences:—"To develop in the school a distinctive method in design by which the style of contemporaneous building shall be influenced and controlled, as the architecture of France seems to be influenced by the fashions which from time to time prevail in the École des Beaux-Arts, is by no means our object. This would be, under the circumstances, an improper and most unbecoming ambition. It was, to be sure, suggested some years ago, in high quarters, that the schools in this country would do well to take up and solve the problem of developing a new architectural style, which should be thoroughly national and should express the characteristics of the twentieth-century civilisation in this country. But this cry finds no echo in our minds. It is for the architects themselves, practising in their offices, to create, as they may, the architecture of the future by erecting the most sensible and beautiful buildings they can. It is the business of the school to see to it, as far as we may, that the architects themselves have the good sense and good taste, and the self-reliance and independence of mind which shall qualify them for this task."

Much assistance to the study of design is given by the Society of "Beaux-Arts" Architects of New York, the object of which is to further the architectural interests of the country, the active members of the Society being limited to those who have been connected with the École des Beaux-Arts in Paris. The Society issues programmes three times during the season, divided into two classes, one for younger students and one for those more advanced. These competitions are open to any architectural student: the drawings are exhibited in New York. Medals and certificates of merit are awarded. Several ateliers have been opened in New York in connection with the Society for the instruction of students, and from the various colleges and universities there are very satisfactory returns: thus the beneficial influence of the best features of Beaux-Arts training is brought to bear on the students, tempered by the practical considerations of active life.

The Cornell University, in the city of Ithaca, New York State, incorporated in 1865, and opened in 1868, has a four years' course of Architecture similar in its details to that above described. The Faculty of the College of Architecture is well manned, having eight professors and assistants, and four special lecturers. The travelling scholarship attached to this College is peculiar in providing for two periods of residence in Europe, with an intervening period of study in the College.

The Syracuse University, established in the central city of the Empire State, has in its College of Fine Arts a department of Architecture with a four years' course, as in the preceding institutions.

Besides the regular course in these colleges, a special two years' course in Architecture is arranged to meet the requirements of those draughtsmen of two or more years' experience who are desirous of pursuing a course in Architecture, but whose early education would not enable them to pass the entrance examinations in mathematics and other subjects, and who cannot take the time to pursue a four years' course.

As a typical institution outside of the Empire State, the University of Pennsylvania, established in Philadelphia, may be mentioned. The School of Architecture in that University is conducted on similar lines to those before described, by a four years' course intended to combine thorough professional training with the essentials of a liberal education. The officers of the Department of Architecture comprise eleven professors and instructors and two lecturers, by whose exertions the standard of efficiency of the schools, as practically evidenced by "The Year Book of the School of Architecture" annually published, is maintained at its highest point, the aim being to secure to its graduates the very best preparation for the demands of subsequent professional practice.

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* The "Avery Memorial Library" was founded in 1890 by Mr. Samuel P. Avery, and Mrs. May O. Avery, his wife, as a memorial to their son, Henry Ogden Avery, an architect of great promise, who was born in 1852 and died in 1890, the foundation of it being the fine library he had collected, extended in the most liberal manner by the generosity of his parents. The catalogue, a copy of which has been presented to the Institute Library, is itself a commendable and useful work in a sumptuous volume of no less than 1,139 pp. folio. In the JOURNAL, 3rd Series, Vol. III. (1896), pp. 188–90, appeared an interesting sketch of the Avery Library, its objects and scope, from the pen of Mr. Barr Ferree [*H.C.M.*], of New York.

In the professional work of the course the major portion of the student's time is devoted to the study of the general subject of design; courses in architectural history support this line of study and broaden the general view of the student; and adequate attention is given to those subjects which may be comprehended under the term "architectural engineering." Skill and taste in draughtsmanship are acquired by the student under constant exercises continued throughout the course, not only in drawing incident to the study of design, but in the various phases of instruction in pure drawing.

This portion of the course consumes about three-fourths of the time required of the student, the remaining portion being devoted to strictly academic studies, including English and English literature, French or German, mathematics, physics and chemistry, all of which are taken in the first two years of the course. In this college there is also a special course of two years offered to architectural draughtsmen who desire to supplement office experience with technical training in design and other subjects.

As an adjunct to the course in Architecture a three years' special course in interior decoration is offered, with the object not only of fitting its students for the intelligent designing of all those objects of industrial art that pertain to, and are included in, an artistic interior; but also of imparting a knowledge of those underlying principles that form the foundation of a sound taste in that branch of æsthetics included under the name of decorative art.

This systematic training and completion of education in academic studies in these University courses cannot, however, be allowed to supersede the necessary final stage of experience in an architect's office; but it effectively prepares for it, enables the student to rapidly appreciate and assimilate such experience, and to supplement it in a most important manner.

With all the advantages now accessible to the student in this country, there is not any systematic and thorough course available for him in any way approaching in completeness to those afforded by the American Universities: in too many cases the pupil desirous of advancing his knowledge can only do so by taking up courses of evening instruction, after his daily work of office routine has exhausted him physically and mentally, and rendered him unfit to reap the full benefit of his studies. The energy of the late Professor Banister Fletcher and the generosity of the Carpenters' Company have much improved the course of study available at King's College and University College. The School of Architecture at University College, Liverpool, under Professor Simpson, is another great step in advance, and Glasgow has progressed in the right direction, in its Technical College under Professor Gourlay, and the School of Art connected therewith; the Municipal Technical Schools and Schools of Art throughout the country aid in the spread of knowledge, which in time will give rise to a demand for the more systematic course of instruction herein advocated.

The establishment of the Teaching University for London and of the Birmingham University raised hopes that Architecture might take its place as a recognised Faculty, and the now scattered and unorganised sources of teaching be consolidated under the influence of a systematic course, which, except for the final instruction in the experience of office work, in all cases where complete education was desired, would have superseded the present defective system of pupilage. These hopes, alas! have not been realised.

The Institute, by its position and influence, can do much towards attaining this end: it has already, with the help of the Architectural Association, effected great improvements in the education of the architect, and, with the success of the American schools as encouragements, may well endeavour to secure for the coming race of students a systematic course of professional University education not inferior to those herein described. The task, if undertaken, is one of great difficulty, and in any case can only be advanced slowly; but, notwithstanding the discouragement of London and Birmingham, every advance in improving the means of education will be a step onwards towards this end.

9, Conduit Street, London, W., 16th June 1900.

CHRONICLE.

THE ANNUAL ELECTIONS:

SCRUTINEERS' REPORTS.

The Council.

The Scrutineers, Messrs. R. A. Briggs [*F.*], Frederick E. Eales [*F.*], H. Hoyne Fox [*F.*], and Albert W. Cleaver [*A.*], report that they examined 503 voting-papers for the election of the Council 1900-1, and that two of the papers were rejected for informality. The following are declared to be the results:—

President.—William Emerson [*unopposed*].

Vice-Presidents (4).—John Belcher; John McKean Brydon; Edward Augustus Gruning; John Slater [*unopposed*].

Hon. Secretary.—Alexander Graham [*unopposed*].

Members of Council (18).—*Elected*: Aston Webb, 423 votes; George Frederick Bodley, 401; Henry Thomas Hare, 360; John Alfred Gotch, 348; Edward William Mountford, 346; Thomas Edward Collcutt, 345; William Douglas Caröe, 331; William Milner Fawcett, 327; Leonard Stokes, 324; Thomas Blashill, 322; Richard Phenè Spiers, 321; Beresford Pite, 307; George Halford Fellowes Prynne, 300; Paul Waterhouse, 299; James Brooks, 294; Frank Thomas Baggallay, 287; Henry Heathcote Statham, 286; Edwin Thomas Hall, 275.—*Not elected*: Percival Gordon Smith, 244 votes; William Young, 233; Benjamin Ingelow, 214; Thomas Jerram Bailey, 195; Ralph Selden Wornum, 191; John James Burnet, 185; Thomas William Aldwinckle, 178; Thomas William Cutler, 162; Sidney Robert James Smith, 122.

Associate-Members of Council (2).—*Elected*: Henry Vaughan Lanchester, 223 votes; Robert Shekleton Balfour, 218.—*Not elected*: Arthur Smyth Flower, 203 votes; James Sivewright Gibson, 201.

Representatives of Allied Societies (9).—*Elected*: Sir Thomas Drew, 385 votes (Royal Institute of Ireland); Francis Haslam Oldham, 372 (Manchester Society); David Barclay, 320 (Glasgow Institute); Frank William Wills, 319 (Bristol Society); William Carby Hall, 318 (Leeds and Yorkshire Society); William Glover, 306 (Northern Association); Joseph Smith, 304 (Sheffield Society); Charles King, 298 (Devon and Exeter Society); Samuel Perkins Pick, 289 (Leicester Society).—*Not elected*: William Bell, 283 votes (York Society); Robert Evans, 253 (Nottingham Society); Thomas Martin Cappon, 244 (Dundee Institute).

Representative of the Architectural Association (1).—William Howard Seth-Smith [*unopposed*].

Auditors (2).—Walter Hilton Nash [*F.*]; Herbert Arnold Satchell [*A.*] [*unopposed*].

The Standing Committees.

The Scrutineers, Messrs. Frederic R. Farrow [*F.*], Arthur Ashbridge [*F.*], Alfred W. S. Cross [*F.*], E. Arden Minty [*F.*], Thomas A. Pole [*A.*], H. S. East [*A.*], Herbert A. Satchell [*A.*], Fred. W. Marks [*A.*], who examined the voting papers for the election of the four Standing Committees, declare the results to be as follows:—

ART.

Fellows (10).—*Elected*: Henry Frederick Bodley, 408 votes; Ernest George, 407; Henry Thomas Hare, 343; John McKean Brydon, 331; Alfred Waterhouse, 327; Edward William Mountford, 316; John Macvicar Anderson, 307; Thomas Edward Collcutt, 304; William Douglas Caröe, 294; James Brooks, 290.—*Not elected*: Henry Heathcote Statham, 255 votes; William Young, 245; Charles Harrison Townsend, 215.

Associates (6).—*Elected*: Andrew Noble Prentice, 384 votes; Henry Vaughan Lanchester, 349; James Sivewright Gibson, 334; John William Simpson, 326; William Henry Romaine-Walker, 323; Robert Shekleton Balfour, 314.—*Not elected*: William Arthur Webb, 264 votes.

LITERATURE.

Fellows (10).—*Elected*: Alexander Graham, 407 votes; G. H. Fellowes Prynne, 386; R. Phenè Spiers, 385; William Alfred Pite, 377; John Bilson, 375; Paul Waterhouse, 373; Benjamin Ingelow, 372; Sydney Smirke, 353; Henry Heathcote Statham, 346; Charles Harrison Townsend, 311.—*Not elected*: John Hebb, 292 votes.

Associates (6).—*Elected*: Arthur Smyth Flower, 329 votes; Leslie Waterhouse, 301; Percy Scott Worthington, 301; Professor Elsey Smith, 285; Andrew Noble Prentice, 280; John Humphreys Jones, 246.—*Not elected*: Arthur Maryon Watson, 229 votes; Edward William Hudson, 179; Hubert Christian Corlette, 174; William Adam Forsyth, 163.

PRACTICE.

Fellows (10).—*Elected*: Douglass Mathews, 368 votes; Thomas Joseph Batterbury, 363; Samuel Flint Clarkson, 356; George Hubbard, 338; Walter Hilton Nash, 338; Beresford Pite, 328; Edmund Woodthorpe, 315; James Osborne Smith, 311; Alexander Henry Kersey, 293.—*Not elected*: Arthur Ashbridge, 239 votes; Frederick Ernest Eales, 212; Lewis Solomon, 209; Delissa Joseph, 149.

Associates (6).—*Elected*: Charles Henry Brodie, 335 votes; William H. Atkin-Berry, 311; William Henry White, 311; Augustus William Tanner, 295; Henry Hardwicke Langston, 246; Sydney Perks, 236.—*Not elected*: William Woodward, 218 votes; Robert Stark Wilkinson, 191; Edward Greenop, 174; Herbert Alexander Pelly, 135.

SCIENCE.

Fellows (10).—*Elected*: Percival Gordon Smith, 388 votes; Lewis Angell, 379; Thomas Blashill, 374; William Charles Street, 372; Keith Downes Young, 365; Herbert Duncan Searles-Wood, 362; Frederic Richard Farrow, 333; Alfred Saxon Snell, 325; Benjamin Tabberer, 316; Hampden William Pratt, 314.—*Not elected*: William Edward Riley, 293 votes; Lewis Solomon, 266.

Associates (6).—*Elected*: Matthew Garbutt, 347 votes; Max Clarke, 339; Henry William Burrows, 331; Bernard John Dicksee, 297; George Pearson, 281; Sydney Benjamin Beale, 277.—*Not elected*: James Sivewright Gibson, 253 votes; Robert Watson, 180; Edward Greenop, 174.

The late Charles Barry, *Past President*.

Mr. Gruning made regretful reference from the Chair last Monday to the loss that has befallen the Institute by the death of Mr. Charles Barry [*F.*], F.S.A., which occurred at Worthing on the 2nd inst., in his seventy-sixth year. Mr. Barry was President of the Institute from 1876 to 1879, a time, Mr. Gruning observed, during which many and important changes took place in the administration of the affairs of the Institute. On his retirement from office in 1879 the grateful acknowledgments of the General Body were tendered him for the able and courteous manner in which he had discharged the specially important duties which fell to him during his term as President. By his untiring zeal, admirable tact, and sound judgment the efficiency of the Institute was materially improved and its influence greatly strengthened.

Mr. Barry was the eldest son of Sir Charles Barry, with whom he served his articles, and to whom he acted as assistant at the time of the rebuilding of the Houses of Parliament. His connection with the Institute began fifty-four years ago, in 1846, when he was elected an Associate. In 1854 he became a Fellow, and in 1877 the Royal Gold Medal was conferred upon him for his executed works as an architect. A notice of his professional career will appear in a future issue of the JOURNAL.

At the funeral, which took place at Broadwater Cemetery, near Worthing, on the 6th inst., the Institute was represented by the President and the Hon. Secretary. On the motion of the latter, the Meeting last Monday passed a resolution of regret, and of condolence with his relatives in the loss they have sustained.

REVIEWS.

WORKING-CLASS DWELLINGS.

Houses for the Working Classes in Urban Districts. Comprising thirty typical and improved plans. By Sydney White Cranfield and Henry Ingle Potter, Associates R.I.B.A. Price 15*s.* [*London: B. T. Batsford,* 94, *High Holborn.* 1900.]

This handsome volume, produced by two Associates of the Institute, is worth careful study. After giving many suggestions on planning and elevations, which seem for the most part judicious, they put together in a handy form the public regulations applicable to such dwellings and illustrate the subject by many clearly drawn illustrations, well explained. Nine types of houses are given, five of them ranging from the small four-roomed terrace house to the six-roomed house of more complicated plan; and the system of putting at the head of each type the plan in ordinary use, following it with plans showing suggested improvements, is to be commended. The remaining plans show modes of combining two tenements or flats in one house, an idea that probably must be carried out to a very large extent on the margins of towns.

Perhaps the most suggestive feature of the book arises out of the difficulty of providing three bedrooms in houses of narrow frontage. This is very ingeniously met by the device of a broken or dog-legged party wall between each pair, thus widening the front of one house and the back of its fellow, so that alternately two bedrooms can be got in front and two in rear. By adopting the staircases to suit each case the object is gained, in the simpler plans at least, without much cost. There is a good deal of variety in the arrangement of the scullery and offices.

The type of plan in which the gloomy back parlour of the ordinary terrace house is replaced by the kitchen department, while a good lightsome sitting-room forms the back addition, is well represented. No doubt many of these types are beyond the reach of the ordinary working man; indeed even the cheapest of them is too much for the class of workmen for whom the house question is now being raised. None of these can afford a whole house, and so the plans here given of cottages to be let in flats have a special value. Here the dog-legged party wall is used, as it has often been used, to vary the sizes of tenements built in blocks, and many of the combinations are novel and useful.

One is inclined to ask why such books as this are offered to architects? No doubt any unwary ones amongst us copying these plans would come to a bad end, and soon; but, by proceeding warily, by leaving out all the features we dislike, by leaving in all that everybody knows, and, in the last resource, by venturing something of one's own, one may take a hint here and there and escape in safety. On the first of these points I will offer a few suggestions.

An angle fireplace is very suitable for a small bedroom, and, when the living-room is less than ten feet wide, it is very tempting; but it is very awkward in the family circle. The family circle, perhaps, originated when the fire was in the centre of the hall; we content ourselves with a semicircle; but to squeeze its members into a quadrant, into which the housewife, who has always something going on at the fire, must break her way by tugging at the meekest of her flock may be to disturb the harmony of family life. Better struggle to keep the living-room wide enough to allow of the fireplace being placed, as usual, in the party wall. Winders in staircases must generally be necessary in small houses, and, if put where one may reasonably look out for them, may be free from objection; but in unusual combinations or where only one is used in a place there must be danger. To eke out the size of a small room, or to add to the comfort of a larger room, by a bay window is to gain at the same time a very picturesque effect. But the space so gained is costly, and the bays so freely used in these designs may have to be abandoned, even if some of the rooms should have to be widened as an alternative. Several of the bedrooms are of very scant dimensions, though such are often used, and with many people it must be a question of small rooms or none.

To go carefully over each plan in this book with the explanatory letterpress, bringing as much outside experience to bear on it as possible, would be an excellent preparation for the design of suburban houses suitable for the working classes, and not for them alone. THOS. BLASHILL.

GARDEN MAKING.

The Art and Craft of Garden Making. By Thomas H. Mawson, Garden Architect. Illustrated with perspective views drawn by Mr. C. E. Mallows and others, and also with numerous Plans, Sections, and Details of Garden and Garden Ornament, and further illustrated with Chapter Headings designed by Mr. D. Chamberlain. Roy. 4o. Lond. 1900. Price 21s. net. [B. T. Batsford, 94 High Holborn.]

Home and Garden. Notes and Thoughts, Practical and Critical, of a Worker in Both. By Gertrude Jekyll. With fifty-three illustrations from photographs by the Author. 8o. Lond. 1900. Price 10s. 6d. net. [Messrs. Longmans, Green, & Co., 39, Paternoster Row, E.C.]

Gardens from time immemorial have been the delight of man. Since our loss of Eden it seems to have been an instinct in us to cherish in a humble way the loveliness of the gifts that God has allowed us to retain. The "Garden of Herbs," with the attendant sowing of seed and watering, is several times mentioned in the Old Testament. One feels that Ahab's murder of Naboth has its brighter side in the love for a garden that led him up to the deed. Nowhere has love of this kind been more forcibly expressed than in the Song of Solomon: "A garden enclosed is my sister, my spouse;" "a fountain of gardens, a well of living waters." The hanging gardens of Babylon, the Roman gardens of classic time, the monastic gardens, and later the Italian and Dutch gardens show how universal this love has been. Lord Bacon says that "it is the purest of human pleasures, the greatest refreshment to the spirits of man." No wonder then that even in this overwrought and busy age we still have some of this love left in us. There is evidence of this not only in the increased desire that we see on all sides to cultivate lovely flowers and plants, but also to lay out grounds, to help to show their loveliness to the best advantage. A further evidence is the increased amount of literature referring to the subject, and we are glad to welcome Mr. Mawson's new work, which will be a guide to many and help them to do better in forming their gardens than has of late been done under the guidance of those horrors of all architects the landscape gardeners.

Mr. Mawson, who calls himself a garden architect, for fear he should be confounded with them, seems to have a true feeling of what a garden should be. He recognises the necessity of treating the grounds with appreciation of the dignity and careful design which they should have. The parts near the house should be laid out to act as a framework to it, and add to the harmony of the whole. While allowing meandering walks in the more distant parts he professedly objects to mere "wriggles" in paths, yet some of his plans show that his mind is not entirely emancipated from them. In fact in his preface he confesses this to some extent when he says, "Whilst I consider a formal treatment the one most likely to give satisfactory results I do not think 'the art and craft of garden-making' is advanced by a slavish adherence to style or tradition. In my own practice I am bound to confess I have often executed work which could not be justified by those rules or canons of art which some would apply to garden-designing, and yet to me the effect has been harmonious."

The book is set out in a thoroughly systematic manner, and will always be useful for reference as well as study. The early chapters are on the making of the garden and the choice of the site and its treatment. In the first he goes into history and tells us of "Capability Brown" and the harm that his conceit did; also of Repton's endeavour to correct his work, and the rules he laid down. He then enters into the practical question of treating the ground, the difficulty of deciding such questions as how far to leave and how far to cut down trees, and in another chapter he discusses fences and gates and gives some very good recommendations and some good illustrations too.

The author gives good advice on terraces, and when he speaks of the beds he says that "the more simple the design of the beds the better they look," agreeing with Lord Bacon when he says that "as for the making of knots or figures with divers coloured earths, that they may be under the windows of the house on that side on which the garden stands, they be but toys; you may see as good sights many times in tarts." The chapter on trellis work and garden furniture is full of good suggestions, and the illustrations show how effective very simple designs may be made. The seats, the sundials, and many other accessories are good and very carefully shown. In treating of water he has some charming illustrations of basins with standards in the centre from which the water may pour down; but when he gets to the lakes it would take even Capability Brown all his time to invent more extravagant twists and twirls in the outline than our author has devised for the lake in Wolverhampton Park.

He discourses freely on the planting of trees—both the formal trees set at significant points or in avenues, &c., and those planted for landscape effect—and gives good practical advice as to the varieties to group together and the soil, &c., for them. In a special chapter on conservatories he explains the necessities of different classes and the points on which failure is likely to follow. The kitchen garden is far from beneath his notice. To his mind "no garden pleasure exceeds that of being able to wander round a good walled-in garden, enjoying the fragrance of the fruit blossoms in the spring, watching the setting of the fruit and its various developments through the successive seasons until the ingathering."

With a man like Mr. Mawson, whose love of a garden is so great, it has been quite a pleasure to wander down the shaded alleys, to rest in the arbours so loved by poets and all who are given to contemplation, and to sit on the quiet retiring seats, not only "for whispering lovers made," but for all who grow warm in their affection for nature set out in her best array by art.

Sedding, speaking of a garden, says: "It is man's report of earth at her best. It is earth emancipated from the commonplace. Earth is man's intimate possession—earth arrayed for beauty's bridal." Such warm words make our affections glow, and make us long that this love may increase in others and may be aroused where it is lying dormant. May our author's work tend to this result.

Cambridge. W. M. Fawcett.

Home and Garden, by Gertrude Jekyll, will be welcomed by all who are about to grapple with that most engrossing problem, the building of a home. Although it appeals only indirectly to the architect the principles laid down for guidance should have a valuable effect on much of our modern domestic architecture were they more often taken into consideration. The careful observance of local tradition in building, involving the design of every detail for its special purpose in the local manner, means the expenditure of much time and thought, for which the manufacturer's pattern book is too often an easy substitute, and the use of the most durable and honest material is at variance with the desire for cheapness or the maximum of effect with the minimum of trouble, so characteristic of the present day.

The chapters on the arrangement and working of the garden are excellent, and the tolerant spirit in which the different styles of gardening are discussed, with a view to the best possible effect, is admirable. The fine effects to be gained by simple combinations and contrasts of well-known and easily reared plants in most unpromising soils (chapter xvi.) should prove exceedingly helpful to those whose gardens are small and unfavourably situated.

As the garden under consideration in this instance is essentially a cottage garden, though of considerable extent, the architectural possibilities of gardening do not come within the scope of the book, but such instances as the illustration on p. 69, Mullein and Lilies and Cannas in The Tank Garden, p. 77, indicate what fine effects can be obtained by the simplest means, and should prove an incentive to further effort in this direction.

Almost any garden is capable of development in this way, and the expenditure of a little thought and care in laying out would often transform the usual dull and meaningless suburban garden into a real pleasure ground full of interest and beauty.

The possibilities of tank gardens and rock gardens in their simplest forms are also great (chapter x.), and these would often repay one's labour much better than the hopeless struggle to raise delicate plants in the arid stony beds that form so many cottage and villa gardens in the suburbs (p. 95).

The system of setting aside spaces for particular flowers, which is usually associated with large plans, is here recommended on quite a small scale, the flowers being carefully selected to suit the soil and aspect as well as with a view to artistic effect. The arrangements of irises, lilies, and roses, &c., described in chapters vii. and viii. would have a fine effect.

There are chapters on miscellaneous subjects which rather interfere with the continuity of the book, and though they possess an interest of their own their inclusion in a separate volume would have been a distinct gain to the present.

The book is illustrated by numerous photographic plates, including several well selected views in the garden and some fine arrangements of cut flowers in vases, &c. J. J. Joass.

STAIRCASES.

A Treatise on Stairbuilding and Handrailing, containing numerous examples illustrating the construction of the Various Classes of Wood Stairs, both for Houses and Passenger Ships, and of Stone Stairs; with a Complete Course of Handrailing, showing easy, accurate, and economical methods of getting out and preparing Wreathed Handrails; also an Appendix consisting of a short course of Plane and Descriptive Geometry bearing on the subject. By Wm. Mowat, M.A., and Alexander Mowat, M.A., Science Masters, School of Science and Art, Barrow-in-Furness. Large 8o. London. 1900. [Messrs. George Bell & Sons, York Street, Covent Garden, W.C.]

"Nothing marks more clearly than the design of the staircase the difference between an architectural composition and a builder's box." Endorsing Professor Barry's sentiment, we heartily welcome the excellent book before us on stair-building. The authors have spared no trouble to make the volume attractive and useful; the illustrations, numbering over 400, are well chosen and clearly drawn, and there is a comprehensive index.

The subject has been arranged in three divisions:—(1) the construction of wood stairs, (2) handrailing, (3) stone stairs—a section devoted to the construction of stairs for passenger ships being a special feature of the first portion. The knotty problem of ships' staircases would probably find the majority of architects quite at sea, if they were called upon to solve them; experience in this respect is necessarily limited, and, as information in this special branch would be difficult to obtain, the book becomes a valuable addition.

For ships and steamers a small space only can be set apart for the stairway; and this fact, together with the necessity of regarding the curvature of the decks and other irregularities of form, makes the setting out of the staircase a matter of special difficulty. Winding flights and complex wreathings must enter largely into the composition of the passenger ship's staircase, making it a happy hunting-ground for the architect or student who delights to solve such problems geometrically. The authors have a thorough grasp of the science of ships' joinery, and, from the architect's view, are perhaps too deeply imbued with this spirit. The division on handrailing—comprising no less than eight chapters—is chiefly devoted to the geometrical setting-out of wreaths, though the complex diagrams are suggestive rather of intricate problems in astronomy. Now, the wreathing and contorting of handrails is, we admit, unavoidable in the design of many ship-staircases; it is frequently required, moreover, in houses and in public buildings. In such cases it is desirable that the application of geometrical principles should prevail over the rule-of-thumb methods so frequently adopted. But the student should always remember that the taste for wreaths and similar contortions in stairbuilding is a vicious one, to be tolerated where such forms are necessary, but not encouraged. "It is common experience"—to quote the authors—"that architects too often show . . . an entire absence of appreciation of the points that conduce to a satisfactory handrail." But how often is not this lack of appreciation betrayed by the unnecessary introduction of curved surfaces! So much consideration is given throughout the book to the study of the curves that there is danger lest the student may receive the impression of their being an important and desirable element in the design. Stairbuilding reached its fullest development about the end of the sixteenth century; and the designs of that period gain in dignity by the entire absence of curves from the handrail and soffits—witness the delightful examples from Crewe Hall, Knole, and Hatfield House, each of which is represented by a full-page illustration.

The chapters on stone stairs are excellent in every respect. LESLIE WATERHOUSE.

NOTES, QUERIES, AND REPLIES.

Mr. Prior's "Gothic Art in England" [p. 375].

From Professor BALDWIN BROWN, M.A. [*H.A.*]—

On p. 378 of the last issue of the JOURNAL, line 15, the words "though necessary" should read "though necessarily concise." On p. 376, line 13, the printer has put a capital "C" to *commacini*. I write it with a small "c" because I incline to the view of the editors in Pertz's *Monumenta* of the document in which the word occurs, that it merely means "associated masons" and has nothing to do with Como. I am glad to see that Dehio and von Bezold take this same view.

Mr. Moore's "Gothic Architecture" [p. 279].

From Mr. CHARLES HERBERT MOORE—

The review by Mr. Francis Bond of my book on Gothic Architecture which has just appeared in the Institute JOURNAL does me injustice, which I beg to be allowed to correct. After speaking courteously of the book, and saying that it sets forth the philosophy of Gothic construction which is scattered throughout the many volumes of Viollet-le-Duc's *Dictionnaire*, he asks, "Can it be that archæologists have learned nothing for thirty years or more? Certainly in France the far-reaching hypotheses of the sixties are no longer received in an unquestioning spirit." If by this it is meant to imply that Viollet-le-Duc's philosophy of Gothic construction is now discredited in France, it is quite wrong. M. Anthyme St. Paul, M. Brutails, and others have questioned some of his conclusions respecting such matters as the influence of the Cluniacs on the architecture of the twelfth century, the chronology of certain classes of buildings, the part taken in the evolution of the Gothic style by the lay builders, &c.; but no one has questioned his general philosophy of Gothic construction.

I have said that the flying buttress exerts a counter-thrust to the vaulting, to which Mr. Bond objects, and says that its function is merely to "transmit thrust." But will he maintain that if the vaulting were removed there would be no action of the flying buttress tending to disturb the equilibrium of the pier? He affirms that my description of a Gothic building is applicable to Amiens cathedral only. But this is incorrect. It applies to every Gothic building, in so far as its original scheme is carried out and remains unaltered. It applies to Chartres, to Meaux, to Reims, and to Beauvais, and others, as well as to Amiens. It applies, with minor exceptions due to the fact that the system was not yet fully matured, to the cathedrals of Paris, Laon, Soissons, and many others. It applies to Bourges, save for the want of a transept, in the lack of which this building, as I remark (p. 171), is exceptional. It applies to Le Mans, though the form of this building is unusual. Mr. Bond's remark that it has no triforium is incorrect. For although the clerestory of the central aisle is brought down so as to take in the usual triforium space, in a manner that I describe on page 253, the inner aisle has a triforium and clerestory. The remark that my definition "excludes the beautiful Sainte Chapelle" &c. is a quibble. It, of course, excludes it from the category of fully developed Gothic buildings, as I have pointed out on page 20; but I explain that such buildings are Gothic as far as they go. I have not said that a Gothic building must always have aisles, transepts, triforiums, or any other such features. These are enumerated, of course, as characterising a fully developed Gothic edifice; but it is the peculiar structural system alone that I maintain to be primarily essential to Gothic.

Mr. Bond cites the extra ribs in the vault of the crossing of Amiens as a refutation of my statement that true Gothic vaults have no such ribs. But this vault is an alteration, and thus has no bearing on the question. To my statement that in the Gothic system each pier is compound, he replies that the piers of Châlons and Paris are simple cylinders. But this is not so. The piers of both of these buildings are highly compound except upon the ground story. I refer to such piers (pp. 89, 92, 99, 117), and on page 124 I explain how they were developed into the more completely organic form in the perfected Gothic of Amiens, Reims, and other monuments. "On some minor points," Mr. Bond goes on to say, "it is not easy to agree with Mr. Moore. In true Gothic, he tells us, no superfluous features occur (p. 19). But surely every spire is a superfluity," &c. The passage referred to occurs in a footnote which relates to structural features—the particular ones mentioned being vault ribs. To talk about spires in this connection is irrelevant. But, continues the relentless reviewer, "On page 21 we are told that Gothic arose out of the need of vast stone-built churches, such as could not be constructed without aisles. As a matter of fact, a vast stone-built cathedral was constructed without aisles, and vaulted too, as early as 1150; and there are numerous vaulted hall-churches of early date between Angers and the Mediterranean." A specific enumeration of the churches that Mr. Bond has in mind would be more instructive. Can a single vaulted structure without aisles, early or late, having a span equal to that of both nave and aisles of even a moderate-sized Gothic cathedral, be cited?

To my statement that the architectural requirements of the monastic orders were of comparatively narrow range, and that the freest exercise of invention could not be called out under the shadow of the cloister, Mr. Bond affirms that "the exact reverse is the truth," and he cites the churches of Cluny, St. Martin of Tours, Vézelay, and St. Sernin, Toulouse, in support of his position. These are exceptional monastic churches. Cluny was, indeed, as I have said (page 43), the largest church of the Middle Ages—that is to say, it had, including its extensive narthex, the greatest length. The nave, however, of even this largest of all monastic churches, was narrower than that of Paris; while the east end, the most important part of the mediæval church, was insignificant in scale as compared with the vast double-aisled east ends of Paris or Chartres. But such a very exceptional building is not a fair one for comparison. Let us take the next largest one, that of St. Sernin of Toulouse, and see how much support it lends to Mr. Bond's position. The total width over all of St. Sernin is about 33 metres, and the height of its vaulting is 21 metres; while the total width of Paris is about 46 metres, and the height of its vaulting is 33 metres. But even St. Sernin is an exceptionally large monastic church, while there are many Gothic churches as large, and larger than Paris. It was not, however, merely in respect to scale that I spoke, but in respect to constructive invention; and as to this no evidence has been produced to show that I am incorrect. I have admitted (p. 26) that the first steps of Gothic development were taken in the monastic churches, and have spoken of the admirable inventive activity of the monasteries; but I have also affirmed (p. 27), what I believe cannot be successfully disputed, that the "full development of the Gothic system was not to be the work of the monk." We have, however, little exact knowledge of the precise parts taken respectively in architectural works by the monastic and lay workmen, and there may be room for difference of opinion on this point. Mr. Bond is at liberty to reject my view; but he is not justified in speaking as if the truth were beyond question all on his side.

Again, Mr. Bond says, "On page 43 Vézelay is said to be the characteristic type of Burgundian Romanesque. It is just the reverse." But on page 43 nothing of the kind is said. In the passage referred to I speak of the organic Romanesque out of which the Gothic was developed, and I say that the type (*i.e.* the organic type) characteristic of Burgundy is exemplified in the nave of Vézelay. At the top of the same page I recognise the existence of another type characterised by the use of the barrel-vault. But this latter type has no bearing on my subject.

To my remark (page 45) that the Normans seem not to have been logical designers, Mr. Bond replies that "a single glance at the vaults and piers of Durham or Peterborough would have shown him that they are logical in the extreme." If the reader will turn to the page referred to he will find the grounds stated on which my opinion is based. Nothing that can be shown in Durham or Peterborough can alter the facts there stated. "How," Mr. Bond asks, "can St. Germer, which cannot have been commenced before 1140, have suggested transverse arches in the triforium (page 49)? Such arches are found in undoubted eleventh-century work at Chichester, Norwich, and Durham." But on page 49 nothing whatever is said about transverse arches in the triforium. If by "transverse arches in the triforium" (*sic*) the critic means to designate rudimentary flying buttresses (which are what I there speak of), he ought to produce evidence that such were ever built in the eleventh century, either at Chichester, Norwich, Durham, or anywhere else. The reviewer takes exception to my chronology. But I have stated (page 69, *note*) that I do not profess to establish the dates of early buildings with absolute sureness, that the precise order of them is very uncertain; but that while it is so, an illustration of the general progress of Gothic development may be none the less correctly gathered from them.

I am accused of having drawn my notions of St. Front of Périgueux from an obsolete author, and of ignoring the more recent writings of M. Brutails and others, who are supposed by Mr. Bond to have established different notions. But I do not regard the evidence of these writers as conclusive, either as to the date, or as establishing the autochthonous character which they claim for the building. While to say that it is Byzantine in plan only, shows, I think, a misunderstanding of what chiefly constitutes the Byzantine style. That which differentiates Byzantine architecture from all other architecture is the dome on pendentives as we find it in St. Front. The unessential peculiarities adduced by M. Brutails, such as the pointed form in the supporting arches, the ovoid shapes of the domes, and various details of the masonry, are insignificant in comparison with the larger features of the system, including the plan, which are all Byzantine, and not like anything proper to Western Europe.

"But," Mr. Bond concludes, "the essential weakness of the book lies deeper. It consists in looking at mediæval art solely with the eyes of an engineer. Gothic architecture is not merely engineering; it is art also. . . . I am willing to admit that the Frenchman was the cleverer engineer. . . . It was clever engineering, but bad art, to make the voids outbalance the solids; to attenuate the supports so that the building seems alarmingly unstable; to make the vault rest, or seem to rest, on sheets of glass. . . . And though it may be good engineering it is certainly bad art to build a grand exterior and leave it for all time blocked up from view by a scaffolding of buttresses, flying buttresses, and pinnacles." Mr. Bond is mistaken in supposing that I have looked at mediæval art with the eye of an engineer. I have taken pains to show that Gothic architecture is not engineering, but that it is artistic construction. On page 190 I have said: "Structural and artistic principles find simultaneous expression in every step of the progress of this art. Mechanical invention and æsthetic feeling were never separated in the minds of the French builders. They were true artists, and wrought with a steady regard for beauty. I would again emphasize this, lest from our lengthened examination of its structural growth it should be in any degree inferred that Gothic architecture was such a growth merely. The Gothic monument, though wonderful as a structural organism, is even more wonderful as a work of art." And I protest that it was not bad art, but consummate art, to make the voids exceed the solids in the manner in which the Gothic architect did it. I protest, also, that the supports in true Gothic architecture are never attenuated so as to make the building look in the least unstable. The eye is everywhere assured of perfect stability. The vaults never seem to rest on sheets of glass. They rest visibly on their magnificently proportioned and functionally compound piers. While as for a grand exterior blocked up from view by a scaffolding of buttresses, flying buttresses, and pinnacles, no such thing ever existed in Gothic art. The longitudinal exterior of a Gothic building consists of these members, organically adjusted, and grandly ranged in order, so that the expression of the whole is suggestive of a mighty living organism of transcendent beauty.

MINUTES. XV.

At the Fifteenth General Meeting (Business) of the Session, held Monday, 11th June 1900, at 8 p.m., Mr. Edw. A. Gruning, *Vice-President*, in the Chair, the Minutes of the Meeting held 21st May [p. 380] were taken as read and signed as correct.

The Chairman announced the decease of Charles Barry [*F.*], F.S.A., *President* 1876–79, *Royal Gold Medallist* 1877, and having briefly referred to the services rendered the Institute by Mr. Barry during his occupancy of the Presidential Chair, on the motion of the Hon. Secretary a resolution was passed expressing the Institute's regret for his loss, and of sympathy and condolence with his family in their bereavement.

The Hon. Secretary announced the decease of Edward Joseph Hansom, of Newcastle-on-Tyne, *Fellow*, and of the Comte de Marsy, Director of the French Society of Archæology, *Hon. Corresponding Member* (Compiègne), and it was resolved that the Institute's regret at the loss sustained by their decease should be recorded on the Minutes of the Meeting.

The Secretary read the Reports of the scrutineers of the voting-papers for the election of the Council and Standing Committees for the year of office 1900–1 [p. 398].

The following candidates for membership were elected by show of hands under By-law 9:—

As Fellows (9).

IBRAHIM SHAIK DAÚD AHMADI [*A.* 1888], L.C.E. (Bombay), Fellow of Bombay University, Executive Engineer P.W.D. Bombay.
JOHN BAIN [*A.* 1892], Newport, Mon.
SYDNEY FRANCIS BARTLEET.
HENRY BUDGEN [*A.* 1892], Cardiff.
ALFRED ARTHUR COX [*A.* 1885], *Grissell Medallist* 1886, *Godwin Bursar* 1890, Montreal.
THOMAS DINWIDDY.
ERNEST FLINT [*A.* 1880].
FRANK LOUGHBOROUGH PEARSON.
NATHAN GLOSSOP PENNINGTON.

As Hon. Associates (2).

GEORGE JAMES FRAMPTON, A.R.A.
FRANK NEWTON JACKSON.

The proceedings then closed, and the Meeting separated at 8.30 p.m.

THE ROYAL GOLD MEDAL, 1900: Presentation to the Commendatore Rodolfo Lanciani, Professor of Roman Topography in the University of Rome, D.C.L. Oxon. [*Hon. Corr. M.*], Monday, 18th June 1900.

ADDRESS BY THE PRESIDENT, MR. WM. EMERSON.

As the presentation of the Royal Gold Medal is an annual event it is perhaps scarcely necessary for me to remind you that it is an honour granted by Her Most Gracious Majesty, on the advice of this Institute, to a distinguished architect, scientist, or man of letters, who by his works directly, or it may be indirectly, has furthered the interests of the art to whose service the Institute is dedicated.

Professor Lanciani, to whom the Queen has done the distinguished honour of awarding her Gold Medal this year, desires me to say how deeply distressed he is at being prevented attending this evening to receive it; but his presence in Rome just now is imperative. Therefore Count Carobbio has been deputed by His Excellency the Italian Ambassador to receive it for him.

Since 1848, when the first presentation was made, the Medal has been conferred upon distinguished men of many nationalities, but only once during that time on a countryman of Professor Lanciani. In 1849 it was presented to that famous Italian Luigi Canina, whose voluminous works occupy an important place in our Library. Signor Canina and Professor Lanciani are united across the years by many bonds of sympathy, by the nature of their work, by their common interest in and love for the Eternal City of the Seven Hills. In this interest all architects must share, for is not the home of the Pantheon and St. Peter's one of the first objects of their pilgrimage? But although, as we know, all roads lead to Rome, it only gives up its secrets to a chosen few, whether architect or archæologist. And to none has it been more communicative in this respect than to Professor Lanciani, who has contributed so abundantly to our general as well as special knowledge of the city in all its architectural aspects and historical phases.

On the occasion of these presentations it is usual to give some detailed and authoritative account of the life and work of the recipient. Professor Lanciani's life has been one of so much labour that the mere recapitulation of what he has accomplished would speak more eloquently of his many claims to distinction than any eulogy which might be pronounced from this chair. I must, however, content myself with a brief and general outline of his career.

Rome, which has been the scene of his labours, was also the city of Rodolfo Amadeo Lanciani's birth, which occurred on the 1st January 1848. Graduating first in philosophy and mathematics in the Collegio Romano in 1867, two years later he again graduated in mathematics at the University of Rome, and a year later received the diploma of architect and engineer. In 1871 he assumed the post which brought him into touch with his life's work—the post of Assistant Director of Excavations, from which, three years later, he advanced to the position of Director, which he retained until 1890. He combined this position with the professorial Chair of Topography at the University of Rome, and at the same time acted as secretary of the Archæological Commission of Rome.

I need not, perhaps, dwell on the prominent part which Signor Lanciani has taken in Roman excavations further than to mention the valuable results which he obtained from his work on the Sacra Via—on which he was engaged for four years—and from his excavations at the Thermæ of Agrippa, the House of the Vestals, the villa of Voconius Pollio at Marino, the theatre and barracks at Ostia, Nero's villa at Subiaco, and other works which are pretty generally known to students of Roman archæology.

But it is not only from the earth that Professor Lanciani has brought fresh material to light. He believes in the importance of the unpublished document, and in other fields of original research than those of excavation his labours have been equally indefatigable and realised similar valuable results. Most of the principal European libraries, both public and private, are known to him, and his discoveries have been many and important, the fruits of which have appeared in his contributions to the Transactions of Italian and other learned societies. One of his proudest achievements in this direction is incorporated in his memoir on the *Aula e gli Ufficii del Senato Romano* (Curia Julia-Senatus).

This brings me to his career as a writer. I understand that down to the end of last year no fewer than four hundred and seventeen contributions of one kind and another from his pen had been published. His first work, a catalogue of the Castellani Etruscan Collection in the capital, obtained for him the gold medal of the City of Rome, and his book on aqueducts (*I Commentarii di Frontino*), published in 1880, was recognised by the Royal Prize of 10,000 lire. One of his most recent works is *Forma Urbis Romæ*, an archæological plan of Rome in ancient, mediæval, and modern times. I am glad to hear that this important addition to archæology and topography will shortly be followed by a similar map of the Campagna, supplemented by six volumes of text containing an account of archæological research in Rome since the revival of classic studies. The extent of the ground covered by this work may be estimated by the fact that it will contain some twenty-five thousand hitherto unpublished documents bearing on the excavations.

Professor Lanciani adds to his many accomplishments an excellent knowledge of English (which makes his absence to-night the more regrettable), and his *Ancient Rome in the Light of Recent Discoveries* was written in English. He has at the present time a volume in the press entitled *New Tales of Old Rome*, which deals with his latest discoveries in the Forum and on the Sacra Via, and which will be looked forward to with interest alike by the archæologist, the architect, and the historian.

Professor Lanciani's labours have been great, and it must be satisfactory to him to know that they have been widely appreciated. Many European Societies claim him as a distinguished member. Prussia, Russia, and his own country have conferred orders on him, and the Universities of Oxford and Glasgow, Harvard and Würzburg have extended to him the distinction of their degrees.

Signor Professor Lanciani is undoubtedly the greatest of Roman topographers, as is proved by his splendid work, the *Forma Urbis Romæ*. Also he is great as an archæologist, no matter what sneers may have been cast at him or ungenerous criticisms written on some of his work, because others, coming on the scene of the Forum excavations somewhat later than he, dug a foot or so deeper and made discoveries which upset certain theories he had advanced. He nevertheless remains the man from whom some of those who cast stones at him had learned pretty well all they knew of Roman archæology in the first instance. Surely it is no shame that on certain evidence one may make conjectures which on further evidence being produced may have to give way to other views. This is not sufficient to condemn any man, and certainly not one who has done so much really excellent work as Signor Lanciani.

Count Carobbio, I have the distinguished honour to hand you the Queen's Gold Medal for transmission to our excellent friend and confrère Signor Lanciani, and to express the thanks of the Royal Institute of British Architects to you for so kindly attending this evening to receive it on his behalf.

[The Secretary here handed the speaker a telegram from Professor Lanciani addressed to the President, which he opened and read to the Meeting as follows:—"President, William Emerson.—Present in spirit. Offer Institute heartfelt thanks.—Lanciani."]

Count Carobbio, on receiving the Medal, tendered his best thanks on behalf of Professor Lanciani, remarking that he was proud of the great honour the Institute had conferred upon his countryman, and regretting that his imperfect knowledge of English prevented his replying more fully to the President's Address.

THE ARCHITECTURAL CONGRESS, 1900.

The Architectural Congress, held under the auspices of the Institute during the week beginning Monday the 18th of June, duly met for the various functions and purposes detailed in the programme issued to members, and printed in the Supplements to the last two numbers of the Journal. The proceedings were arranged by a General Committee consisting of the following gentlemen:—

Mr. Wm. Emerson, *President R.I.B.A.*; The Rt. Hon. the Earl of Meath; The Rt. Hon. Lord Windsor; The Rt. Hon. Lord Strathcona and Mount Royal, G.C.M.G.; The Rt. Hon. A. Akers-Douglas, M.P.; Sir William B. Richmond, K.C.B., R.A. [*H.A.*]; Sir John Taylor, K.C.B. [*F.*]; Sir Lawrence Alma-Tadema, R.A. [*H.A.*]; Mr. C. Purdon Clarke, C.I.E. [*F.*]; Mr. Alfred Waterhouse, R.A., LL.D. [*F.*]; Professor Aitchison, R.A. [*F.*]; Mr. G. F. Bodley, A.R.A. [*F.*]; Mr. G. J. Frampton, A.R.A. [*H.A.*]; Mr. Aston Webb, A.R.A. [*F.*]; Mr. John Belcher, A.R.A. [*F.*]; Mr. Walter Crane; Mr. Selwyn Image, Master of the Art Workers' Guild; Mr. Rowand Anderson (Edinburgh); Mr. H. J. Austin (Lancaster); Mr. Reginald Blomfield; Mr. Basil Champneys; Mr. John Douglas (Chester); Mr. W. H. Lynn, R.H.A. (Belfast); Mr. Mervyn Macartney; Mr. Ernest Newton; Mr. E. S. Prior; Mr. Halsey Ricardo; Professor F. M. Simpson (Liverpool); Mr. W. M. Fawcett, *Vice-President*; Mr. E. A. Gruning, *Vice-President*; Mr. J. M. Brydon, *Vice-President*; Mr. Alex. Graham, F.S.A., *Hon. Secretary*; Mr. John Slater [*F.*]; Mr. H. H. Statham [*F.*]; Mr. Paul Waterhouse [*F.*]; Mr. J. J. Burnet, A.R.S.A. [*F.*]; Mr. Leonard Stokes [*F.*]; Mr. J. S. Gibson [*F.*]; Mr. H. V. Lanchester [*A.*]; Sir Thomas Drew, R.H.A., President Royal Institute of Architects of Ireland; Mr. Joseph Smith [*F.*], President Sheffield Society of Architects and Surveyors; Mr. A. E. Sawday [*F.*], Leicester and Leicestershire Society of Architects; Mr. R. I. Bennett [*F.*], Manchester Society of Architects; Mr. David Barclay [*F.*], President Glasgow Institute of Architects; Mr. William Glover [*F.*], President Northern Architectural Association; Mr. W. L. Bernard [*F.*], Bristol Society of Architects; Mr. Robt. Evans [*F.*], President Nottingham Architectural Society; Mr. E. A. Ould [*F.*], Liverpool Architectural Society; Mr. W. H. Bidlake [*F.*], President Birmingham Architectural Association; Mr. W. Carby Hall [*F.*], President Leeds and Yorkshire Architectural Society; Mr. Charles King [*F.*], President Devon and Exeter Architectural Society; Mr. T. M. Cappon [*F.*], President Dundee Institute of Architecture; Mr. W. Bell [*F.*], President York Architectural Society; Mr. J. Coates Carter [*F.*], Cardiff, S. Wales, and Monmouthshire Architects' Society; Mr. J. Souttar [*F.*], Aberdeen Society of Architects; Mr. Henry F. Kerr [*A.*], President Edinburgh Architectural Association; Mr. J. Douglass Mathews [*F.*]; Mr. Thos. W. Cutler [*F.*].

MONDAY'S PROCEEDINGS.

Presentation of the Royal Gold Medal.

The proceedings opened on Monday evening with a reception by the President in the rooms of the Institute. Among the numerous company assembled were Count Carobbio, Secretary to the Italian Embassy, Sir L. Alma-Tadema, R.A., Sir Henry Howorth, M.P., Sir John Taylor, K.C.B.; Past Presidents Mr. F. C. Penrose, F.R.S., and Professor Aitchison, R.A.; Sir Thomas Drew, President of the Allied Society in Dublin, Mr. Charles King, President of the Devon and Exeter Society, Mr. W. Carby Hall, President of the Leeds and Yorkshire Society, and representatives from various other Allied Societies; Professor Neckelmann, of Stuttgart [*Hon. Corr. M.*], &c.

The Meeting was graced by the presence of several ladies.

Following the reception came the first business of the Congress, viz. the Presentation of the Royal Gold Medal for the year 1900. In the absence of Professor Lanciani, whose engagements prevent his leaving Rome at this season of the year, the Medal was received on his behalf by his friend, Count Carobbio, of the Italian Embassy in London. The President's Address, briefly sketching the career and labours of Professor Lanciani, is printed on foregoing pages.

Exhibition of Photographs of Ancient Greek Monuments.

The rest of the evening was occupied with a Lantern Exhibition of photographs representing the most interesting monuments remaining of ancient Greece. The slides were lent for the occasion by Mr. R. Phené Spiers, having been prepared from photographs taken by his brother, the late Mr. E. G. Spiers, while travelling in Greece some years ago. There were also one or two of the Acropolis, lent by Mr. Hugh Stannus. As the views were thrown upon the screen, an interesting description was given by Mr. Penrose of the various buildings represented, and the actual condition of the remains at the present day. Among them were views of the Propylæa, the Parthenon, the Erechtheum, the Temple of Theseus, the Great Temple of Jupiter Olympus, and various other remains in and about Athens; a Temple in the Island of Ægina; the Theatre of Epidaurus; the Citadel of Tiryns; the Citadel of Mycenæ; the Treasury of Atreus; and several buildings in Olympia, where, Mr. Penrose stated, by the energy of the Germans and the great liberality of the German Emperor, has been excavated an enormous area, bringing to light a city scarcely inferior to Pompeii in preservation. On the walls of the room were hung a series of water-colour drawings of some of the buildings represented in the photographs, the work of Mr. R. Phené Spiers, F.S.A.

At the close of the exhibition the President asked the Meeting to accord a vote of thanks to Mr. Penrose for his great kindness in coming to the Meeting and giving them so lucid a description of the various buildings. Looking at the photographs and listening to Mr. Penrose's account of the remains gave those who had never seen those wonderful buildings an excellent and vivid idea of them and their surroundings. The photographs brought before them very strongly the greatness of the grand old architects of classic Greece, making their own efforts appear very small indeed beside those wonderful works of antiquity. The conviction was forced upon them that it was hopeless to expect, with our modern requirements and climatic conditions, to equal the grandeur of the architecture of those days.

The Meeting concluded, the visitors adjourned to the Council-room, where refreshments were served.

TUESDAY'S PROCEEDINGS.

The Desirability of Official Control over the Architecture of our Towns and Cities.

The second Meeting of the Congress was held on Tuesday afternoon at three o'clock, when the President, Mr. Wm. Emerson, took the chair, and read a Paper on "The Necessity for Official Control over Architecture in our Towns and Cities." In his opening remarks Mr. Emerson observed upon the need for control over the artistic, the æsthetic side of architecture. In matters of construction efficient control was exercised, but in the great public streets and places people were at liberty to erect any kind of building they pleased, provided it conformed to the construction clauses of the Building Act and by-laws. The need for such control was felt by people of culture both at home and abroad, and the subject was down for discussion at the forthcoming Architectural Congress in Paris. Discussing the question of the constitution of the controlling body, Mr. Emerson suggested that, were such control to be established, there should be a responsible head, whether Government Minister or not, and he should be chosen not only for his administrative or political capacities, but for his known possession of cultivated taste, large Imperial ideas, and love of art, combined with practical common sense, and he should not have the power to overrule the committee's decision. The committee should be formed of the best men among the Royal Academicians, Royal Institute of British Architects, and other artistic societies. The view of the majority should be final in all schemes, public or private, which affected the *ornato pubblico*. For the Metropolis, in which the whole empire was interested, such a controlling body should be a Government Ministry of Fine Arts; while each provincial town or county council should have the right to elect its own committee.

Sir John Taylor, in proposing a vote of thanks to the President for his Paper, said he doubted whether the recommendations of such a body as that suggested would have a better fate than those made by the Office of Works, which had been more than once set aside. In the most recent case the Government had had the assistance of the Institute in the selection of the architects invited to erect new public offices, and in taking that course the result had been very much what the President had asked for.

Mr. Wm. Woodward seconded the vote of thanks, and pointed out that the committee referred to by Sir John Taylor applied only to the Office of Works, whereas the President's suggestion applied to the whole country. He referred to notable instances of disfiguring structures which London would have been spared had such a controlling body existed as that advocated.

Mr. Wm. Young pointed out that already on all the great London estates designs had to be submitted and approved. He thought they might carry control too far, and asked why, instead of a controlling body, there should not be an advising body. Altogether, he felt it was better to endure the ills they had than to fly to others they knew not of.

Mr. Hippolyte J. Blanc, of Edinburgh, said what was wanted was the education of the architect, and the true appreciation of the architect's works by the public. Control was needed, but not too hard and fast. He did not like the word "control"; the committee should be a sort of watch committee to make suggestions, and should be composed of competent architects and laymen.

Mr. Day, of Worcester, thought that control in design would be very beneficial to the community at large. He feared, however, that the scheme suggested in the Paper would be looked upon by the ordinary layman and many public bodies as an unnecessary interference.

Mr. F. R. Kempson, of Cardiff, thought that a committee to advise would be better than one to dictate.

Mr. Joseph Smith, of Sheffield, said that there was urgent need for a different order of things, and that the scheme suggested by the President might usefully be tried.

Mr. Arthur Cates felt that, however desirable the aim, the scheme was somewhat Utopian in character, and would meet with considerable opposition under the existing conditions of Treasury control as regards public buildings, and that Parliamentary control so highly cherished by members of the Legislature.

Other speakers were Messrs. E. W. Hudson and Zeph. King, and the President having replied to various points raised, the Meeting terminated.

The Conversazione at Guildhall.

In the evening some thirteen or fourteen hundred persons enjoyed the hospitality of the President and Mrs. Emerson at a Conversazione given at Guildhall, by kind permission of the City Corporation. The guests were received by the host and hostess from 8.30 to 10 in the great hall. Among those who accepted invitations were His Excellency the American Ambassador, the Lord Mayor and Lady Mayoress, Alderman and Sheriff Sir William Treloar, the Lord Mayor and Lady Mayoress of Leeds, Sir Wm. Richmond, R.A. Mr. E. J. Gregory, R.A., Col. Sir Herbert Perrott, Lieut.-General the Hon. Sir Andrew Clarke, G.C.M.G., Agent-General for the Colony of Victoria; the Hon. J. Alexander Cockburn, Agent-General for the Colony of South Australia; the Hon. Sir Horace Tozer, K.C.M.G., Agent-General for Queensland; the Hon. E. H. Wittenoom, Agent-General for West Australia; Dr. W. S. Church, President Royal College of Physicians; Mr. Kelly, Chief Justice of the Niger Colony; the Mayors and Mayoresses of Darlington, Richmond, Southport, and Wednesbury, the Mayors of Cheltenham, Croydon, Guildford, and Preston, the Masters of the Worshipful Companies of Armourers and Braziers, the Fishmongers, the Ironmongers, the Leathersellers, the Merchant Taylors, the Founders, the Vintners, &c. The band of the Royal Artillery, conducted by the Cavaliere L. Zavertal, R.A., played in the great hall all the evening, and a vocal concert was given in the New Council Chamber under the direction of Mr. Fred Walker, R.A.M. Further attractions were the Guildhall Loan Collection of Pictures, a Collection of Photographs of Buildings erected by British architects during the last ten years, Architectural Sculpture and Ironwork, and Architectural Drawings and Sketches of Ancient Buildings. Of special interest were the six sets of designs submitted for the Old Bailey Sessions House Competition, which has at last been decided in favour of Mr. E. W. Mountford. In the Library were displayed a collection of rare books and MSS., kindly arranged by the Librarian of Guildhall, Mr. Charles Welch. Guildhall lends itself admirably for the purposes of an immense social gathering such as that here chronicled. The floral decorations, consisting of palms, foliage and flowering plants, were tastefully arranged by Messrs. Simmonds, and refreshment was served by Messrs. Gunter. When the company separated at about 11.30, the feeling was universal that the evening had been a very delightful one.

WEDNESDAY'S PROCEEDINGS.

Collaboration of the Architect, the Painter, and the Sculptor.

The morning meeting of Wednesday was devoted to Papers on "The Collaboration of the Architect, the Painter, and the Sculptor," by Mr. E. W. Mountford, Sir Wm. Richmond, R.A., and Mr. Roscoe Mullins. Mr. Wm. Emerson presided.

Mr. E. W. Mountford said that the subject was becoming daily more and more deserving of their consideration. Architecture was not to be considered as dependent for its perfection on the assistance of sculpture and painting. Many of our most admired ancient buildings were destitute of either, and the work of our greatest living architect was conspicuously free from any such assistance. But they would probably be perfectly agreed upon the great desirability of inviting the aid of their brethren of the brush and the chisel to beautify and embellish their buildings whenever it was possible to do so—that is to say, when it might please their clients to provide the means. Supposing that they had been entrusted with the erection of a building for which there were ample funds, so that they might with a good conscience invite an eminent sculptor and an eminent painter to help in making it as beautiful as they knew how, then they began to understand that there was some enjoyment in life after all, and proceeded to their work with even more than usual enthusiasm. As soon as the rough sketches were completed they would desire to consult their chosen fellow-workers, and from that time until their joint creation stood accomplished the more frequent their intercourse the better for their building. It must not be forgotten that the building was the thing, and the architecture was not to become a mere background for the painting or sculpture. These latter were means to be employed for giving additional interest and beauty to the building, explaining its purposes, its uses, and its history or the history of its builders, becoming part of the architecture itself, and not to be thought of otherwise. Sculpture he regarded as being much more a necessity for important buildings than colour decoration, which was rather a luxury seldom to be attained.

Sir Wm. Richmond said that the spirit of the true artist should preside over all their labours, great or small—a spirit which induced spontaneity of design, and which prompted sincere endeavour to carry it out with clearness, which should be the expression of themselves, and therefore with style. Style was what was wanted and was so often absent, the impression of the mind and hand of the artist. Of "styles" most of them wearied; their use, more often than not, implied absence of invention, and was but an attempt to revitalise corpses. The collaboration of the architect, sculptor, and painter ought not to be difficult. To be successful the architect should not interfere with the sculptor or painter, *qua* their designs; this he would not need to do if his style was his own, for if they were true artists they would give and take according to the requirements of their arts as well as for each other's art. They would each respect the other's province, that of the architect as the designer or builder of the structure; of the sculptor as the designer and carver of effigies, ornament and its attendant parts; of the painter, the designer and executant of the pictures, their borders, &c., and their colour scheme. But both sculptor and painter must give way to the architect upon matters of scale, of proportion of part to part, so that their work should be harmonious in scale with his; of quantity, of projection, whether in the round or relief, of the fairness or depth as to tone of the painter's scheme. So would they labour in harmony. While architects insisted upon "styles" they would get no first-rate sculptors or painters to aid them or to work with them. For the adornment of "styles" they had to continue to go to "firms," where they could be provided with as many shams as they required, all quite lifeless and hopelessly out of touch with the movement of this, or for the matter of that with any period, because they did not reflect it. As long as "styles" were abjectly adhered to, art must remain dead! As soon as architects designed original buildings—which, by the way, here and there they did, irrespective of severe canons of proportion and orders, but structurally consequent and individual—they would find plenty of sculptors and painters to work with them; but as long as they designed in "styles" no original men would be slaves to them. Finally, of course, the architect was the responsible person; therefore he should be a thoroughly equipped artist. Would it not be possible to avoid too early specialising? How few architects there were who knew anything about colour! How few painters were even indirectly interested in architecture; and how few sculptors learnt to be an attendant upon architecture! And what a loss it was to each that he was so ignorant of his sister arts! The well-equipped designer was able to cover a large field of action. If he could design in one material, why not in another? None of the techniques were so enormously difficult, either of building, carving, or painting, that they could not be acquired by patience, given the artistic temperament. It was the artistic use of techniques acquired by experience which succeeded, or the reverse, in exact relation to the quantity of intelligence and judgment that had been put into it. Advanced students should, he thought, be encouraged to collaborate. Given a model designed in conclave, made by the architect, to be sculptured by the sculptor, and decorated by the painter, how interesting such efforts would become! What a stimulus they would give to the three arts! Each student having thus become conversant with the arts of his colleagues would be in a position to criticise as well as to appreciate them. The three arts would thus grow up, as it were, together; they would not be strangers to one another. The great mother of the arts, architecture, would take to her children again, who had separated from her, as she had from them, to their and to her privation. They were individually striving to render England more beautiful; let them try to do so collectively. Let them strike out for freedom—not licence, but freedom based upon the only sound foundation, sincerity, combined with knowledge of the various branches of what, after all, was but one art.

Mr. E. Roscoe Mullins maintained that a sculptor was only truly working out his art in its highest conception when he was working in unison with architecture, and was controlled and inspired by its conditions and limitations; and in so far as the willing hand of architecture was not held out to sculpture, the art suffered. The natural and rightful place for sculpture was in connection with or upon buildings, which it should ennoble and beautify by its presence. The treatment of sculpture should depend upon the particular lighting that the chosen position and the surroundings would give it; and much of its shape, arrangement, and effect must be due to the space allotted for its filling. This was not the popular view of the art, but that it was the true one a glance at the past great periods would prove. In the days of the Renaissance it was equally so; Michael Angelo, Donatello, Luca della Robbia, Ghiberti, all collaborated with architects, and their best work was done for architecture. In the Gothic days, too, this truth was equally apparent, as a visit to the chapels and tombs at Westminster abundantly proved. It was only in these days that the direct union had been lost and the art had been conceived as standing alone, and, like painting, thought to be free and independent. He considered it essential that the sculpture, whatever its character and wherever placed, should be seen in its entirety, and that the form the work took should be the suitable one for the position—not as in the case of the frieze that ran round the Athenæum Club in Pall Mall, and, again, that over the gateway at Hyde Park Corner, which were copies of the well-known Panathenaic frieze of the Parthenon, but which were placed under quite different conditions of light and position from those which guided the architect and sculptor of the Greeks in their choice of the style of relief. To sum up, the points he would insist upon were these—that it was against the best traditions of the past to divorce the arts of architecture and sculpture; that this divorce led to a low estimate of sculptural decoration, as well as to a want of direction and meaning in the sculptor's work; that gallery exhibitions of isolated works belittled the art of sculpture; that portrait sculpture was shorn of its character and truth, which could only be truly given when incorporated in a wide scheme of decoration. For these reasons he maintained that a healthy demand for sculpture and a capable and satisfactory development of the art could only be attained by returning once more to the traditions of the past and effecting a closer union of the kindred arts, architecture and sculpture.

Discussion on the Papers followed, contributed to by Mr. H. Selwyn Image, Master of the Art Workers' Guild, Mr. Heywood Sumner, Mr. Beresford Pite, Mr. Aston Webb, A.R.A., Mr. Seth-Smith, Mr. William Woodward, Mr. H. G. Ibberson, Mr. A. N. Paterson (Glasgow), Mr. Geoffrey Lucas, and the Chairman. A vote of thanks passed to the readers of the Papers was briefly responded to, and the Meeting terminated.

Visit to the New Westminster Cathedral.

The first visit of the Congress was paid on Wednesday afternoon to the New Westminster Cathedral. The architect, Mr. J. F. Bentley, although suffering from an indisposition which gave him great pain and prevented him speaking, was in attendance. The features of the building were explained by the Rev. Canon Johnson, for whose clear and energetic account the thanks of the Institute are due. A model of the building was inspected afterwards in the house of the Cardinal Archbishop, where tea for the hundred and fifty visitors was provided by the kind hospitality of his Eminence. After tea the buildings attached to the Cathedral, including the new Cardinal's house, were inspected under the guidance of Canon Johnson.

"The Ideal City."

At the evening meeting on Wednesday, Mr. E. A. Gruning in the chair, Papers under the title of "The Ideal City" were read by Mr. Halsey Ricardo, the Earl of Meath, Chairman of the Metropolitan Public Gardens Association, Mr. W. D. Caröe, F.S.A., and Mr. T. Stirling Lee.

Mr. Halsey Ricardo said that such a standard of magnificence as Rome achieved might be ours did we desire it. The trouble is that we are not agreed as to what we want, and we are not sure that we ought to want it. What were the people's ideals? Architects wanted to know, for it was the people's ideals that they had to carry out. Directly people were agreed upon some public matter, an architecture sprang up in response, and according to the quality of the sentiment, so was its interest. The hospitals we have built to alleviate suffering and to increase our knowledge as to its prevention form one of the contributions of fine living architecture to the nineteenth century. So, too, are the great asylums. Other contributions to the architecture of the time are the Board schools, museums, public libraries, and technical institutes, based also on a popular desire to improve the conditions of our life. Abate something of the virtue of the impulse, and the standard of interest in the style of architecture falls immediately. Theatres, restaurants, gin-palaces, all rise in response to the popular call. In these instances there is some codification of the public desires, but it is not so in the general treatment of our cities. The author indicated the direction improvement might take towards the ideal in London, advocating more obvious and direct access to such of our streets, buildings, squares, parks, &c., as are generally considered embellishments of the city; embanking the river on both sides, and giving wider and less squalid glimpses of it than often now afforded; more general traffic on the river pleasant to the eye and handy to the passenger; abolition of unnecessary street noises, street cries, &c.; more good music in the streets, and also on the water; more control over street distractions in the way of advertisements; laying out of thoroughfares for the better direction of traffic; the provision of back-waters and retreats, shelters for our public monuments; such natural colour in the streets as may be afforded by the use of grass, trees, shrubs, and flowers; the employment of colour as symbolising some general purpose and aspiration.

The Earl of Meath read a Paper dealing with Parks and Open Spaces, prepared by Mrs. Basil Holmes, Hon. Secretary of the Public Gardens Association. The author said that the plan so much in vogue some fifty or a hundred years ago of building houses in "squares" had much to commend it. But such squares should not surround gardens enclosed with railings to which entrance was only allowed to the tenants of a certain limited number of houses. The square gardens should resemble the Continental "places"—open day and night, provided with grass, trees, fountains, flower-beds, and seats, and, like the surrounding streets, be under the control and patrol of the police. The wider roads should be planted with trees, either near the houses or in a double row in the centre of the carriage-way; this would afford shelter in rain and shade in sunshine. All the public elementary schools should have good playgrounds attached, open to all comers out of school hours; and in addition to these there should be separate spaces, playing fields, or open-air gymnasia provided for children, with proper instruction in the use of gymnastic apparatus, so that it might be impossible for any house in the city to be situated more than a quarter of a mile from a public playground. And these playgrounds should be attractive as well as useful, with a part set aside for trees and shrubs, flowers and seats. No large division or ward of the ideal city should be without its park, capable of being illuminated by night, where broad expanses of grass might be seen, and where stretches of water in lakes or streams might bring refreshment to the eye. The public seats should be in groups, in well-lighted parts of the thoroughfares; the drinking fountains and troughs should be artistically designed and pleasant to look upon; outdoor annexes to the restaurants should be encouraged; and every effort should be made to beautify the streets—not monotonously, but with taste and variety, and above all to preserve the natural beauties of any space or garden which might be secured for the people.

Mr. Caröe's Paper dealt with the subject of "Streets and Bridges considered in connection with our *unideal* City." He said that the question of straight streets or curved arose when the plan concerned new cuttings to be made, not the following or widening of old thoroughfares, formed as they mostly were upon the curved lines of once wandering country lanes or dykes. The cutting of a straight street through a district already irregularly streeted at once landed them in the difficulty of all kinds of awkward and canted corners. Nothing could be more unhappy than the sudden ending of a large building in a sharp acute angle. He personally concurred unhesitatingly in the desire expressed by the London County Council for a monumental treatment in dealing with the Strand island and its approaches, and would gladly see such treatment continued as far as Holborn. But a monumental treatment need not mean the continuation of one uniform design throughout the whole length. Might not each block between the intersecting side streets be treated separately as a whole, it being essential in this case (as it was, indeed, in the whole matter) that the exterior, at any rate, of each such block should be under the control of one competent architect? Thus they might secure a result at once monumental, varied, and interesting, and not of a more than Parisian monotony. Turning to the question of bridges, the lecturer said that not for one moment did he depreciate the vast benefits to the human race conferred upon it by modern engineering skill. Had they only been as artistically successful in constructing their bridges as English engineers had been in the outward forms of their best locomotives there would be no complaint, but only admiration for all their work. But the problem was not the same. Quite absent from the locomotive, into the engineering problems of the bridge entered the element of architectural scholarship; and this the engineers had, with a few noble exceptions, made no attempt to master. He wished specially to insist upon the essentially monumental character of a great bridge. A bridge across the Thames was upon the same plane of monumental and architectural importance as St. Paul's itself, and demanded the same developed architectural power to design or to embellish it.

Mr. Stirling Lee, who followed, considered "The Ideal City" mainly from the sculptor's point of view.

In the discussion which ensued the following gentlemen took part:—Mr. H. E. Milner, Mr. Owen Fleming, Mr. Arthur Cates, Mr. Charles Hadfield (Sheffield), and Mr. Ernest Prior. A vote of thanks to the authors of the Papers was passed by acclamation, and Messrs. Ricardo and Caröe having replied, the Meeting separated.

THURSDAY'S PROCEEDINGS.

Visits to University College Hospital Extension and to Stafford and Bridgewater Houses.

On the morning of Thursday, Mr. Alfred Waterhouse, R.A., took visitors over his extension to University College Hospital. In the afternoon, in spite of pouring rain, some hundred and fifty members of the Congress visited Stafford and Bridgewater Houses. Mr. Fish, the surveyor to the building, conducted the party over Stafford House. The house was begun by Sir Robert Smirke and continued by Benjamin Wyatt, and it belongs to the Duke of Sutherland, by whose kind permission the visit was made. The thanks of the Congress are also due to the Earl of Ellesmere for throwing open Bridgewater House, one of Sir Charles Barry's buildings, to the Congress, and for the unrestricted liberty afforded to members of wandering through the rooms on the ground and first floors, including the noble picture gallery.

The Education of the Public in Architecture.

At the Meeting on Thursday evening, Mr. J. M. Brydon presiding, Mr. Reginald Blomfield read a Paper on "The Education of the Public in Architecture." The author said that the subject of his Paper pointed to the fact, with which architects were painfully familiar, that the public did want educating in architecture very badly. What they were concerned with was the general standard of intelligence in regard to architecture; the appreciation and misappreciation of the art as shown by current judgments, whether in the press or elsewhere; the evidence of taste displayed in actual buildings which reflected the average opinion of the times. The attitude of the man in the street was the problem with which they had to deal. There could be very little doubt that the attitude was far from satisfactory. Any competent observer who took note of the average of architecture in our great cities would be driven to the conclusion that the general level of taste and ability was low; further, he would find that some of the least admirable of these buildings were the most admired; and lastly, if he compared his observations not only with the criticisms of the press, but with individual opinion, he would find no common standard of appreciation, merely a mass of unrelated judgments amounting to little more than individual expressions of like or dislike. The uncertainty of taste shown in the treatment of public buildings of the last fifty years—shown, he did not mean by architects, but by the authorities responsible—was conclusive evidence of the confusion of judgment which existed in the minds of our representative public men. It was evident that the authorities had no sort of principle to guide them, and so the pendulum swung backwards and forwards. There seemed to him, generally speaking, to be three channels through which public opinion could be reached—(1) by direct school teaching; (2) by treatises; (3) by the work of architects themselves. In most of their important public schools there was an art museum of some sort, a drawing class, run on rather old-fashioned lines, and usually some intelligent master with a cultivated interest in the antique and a sentimental attachment to Early Italian art. What was wanted was a more complete organisation of this teaching and a more comprehensive scope. What he thought might be possible would be (1) to provide a well-selected set of architectural drawings of well-known buildings, and the simplest possible technical diagrams, such as should be easily intelligible to the schoolboy mind; (2) to give an occasional reading in architecture, dealing with its simplest points, and illustrated by models and clear drawings. Some sort of architectural text-book for beginners was, in fact, badly wanted; but the necessity of extreme clearness and simplicity of treatment, in addition to a comprehensive grasp of the subject, made the preparation of such a text-book a matter of very great difficulty. It had been suggested that a series of plain pattern books for builders, giving working drawings of quite simple designs for doorways, windows, and the like, would save them from the utter vulgarity of the great majority of modern buildings in this country. It would be a most useful and practicable task if a committee of architects of recognised competence could be formed to superintend the issue of some such series of pattern books. Lastly, they came to the most important means of educating the public in architecture, their own work. They must set their own house in order before they could sweep and garnish that of the public. Perhaps at this moment the two worst faults of our architecture were, first, the total absence of any sense of style, that kind of design which snatched up any sort of detail and tacked it on to any kind of building, and of which there was abundant illustration in most of our own streets. But there was another and rarer fault, and the more dangerous because it was the vice of a virtue, and this was a certain preciosity, what Pliny called *quædam artis libido*, which ran into frantic experiments after something new and altogether original. Both of these faults could only be attacked by a more thorough and intelligent education of the student, and by a clearer appreciation in their own minds of the province and ideal of architecture.

Professor F. M. Simpson (Liverpool University) said that the education of the public in architecture must depend entirely upon the education of the architect. If buildings improved, the education of the public would follow as a matter of course, because they would be surrounded by good examples instead of bad ones.

Mr. Basil Champneys differed from the last speaker; for, however good our architecture, he could not see how it was to flourish without popular appreciation. Other arts suffered from this want of appreciation almost as much as architecture. But with sculpture and painting there was more or less a fashion of appreciation, and a more or less organised body of criticism. With architecture this was lacking, and there was no organised criticism which was in touch with the general public. He was not in favour of the suggestion about pattern books of windows and doors, for he was afraid the speculating builder, with the encouragement of the client, would put the wrong windows to right doors. A flank movement in architectural strategy was necessary. Mr. Blomfield's "History of the Renaissance" was precisely the sort of thing for the public—a work of a high literary standard, which people of literary attainments had read as a book even when they had no particular interest in the art.

Mr. E. S. Prior said that Mr. Blomfield had laid down an excellent plan of campaign for the treatment of the public, and had set forth what might be called the strategy and tactics of the matter. He had given them ideas suitable in a congress like that, uniting the provincial with the metropolitan followers of the art, in order to advance as a great army to carry the flag of architecture into the enemy's camp. By such methods they ought to be able to win their way, though his only difficulty was as to the public, who held such entrenched positions—positions, however, which they vacated one after the other as uneducated as ever. In concluding a very humorous speech, Mr. Prior observed that he was afraid the public did not get architecture from architects, because architects had no architecture to give them.

Mr. Paul Waterhouse asked whether the public ever had been interested in architecture. Was there evidence to prove that in the great architectural ages of the past the public had shown a learned interest in architecture? He thought they should leave the public alone in the matter. Architecture was a big thing to educate the public in. It was easy to teach them the outlines, the A B C of architecture, but that deeper knowledge which would give them the critical faculty could not be imparted without a very great deal of study. Architects had their own house to set in order; there must be no ignorance amongst architects, and it was to ensure this that there were to-day architectural schools and examinations. There were many architects who were enemies to examination, but they were friends in agreeing that an architect could not be made by examination. Friends of examination did not regard it as the winged sandals of Mercury, but as a means of making sure that ignoramuses were not let into the profession. It was the general education of architects that was wanted to command respect, and not a mere knowledge of technicalities.

Mr. John Slater said that one suggestion brought forward by Mr. Blomfield was an exceedingly useful one—viz. as to giving schoolboys some slight acquaintance with architecture. If the class-rooms could be embellished by good photographs or drawings of our cathedrals the scholars would early begin to realise a little of what was such an important thing—viz. the great connection between the buildings of a country and the history of a country. Even a slight knowledge of architecture must be of great interest and use to the people who had gained it. As to the effect of such education on modern architecture, he did not think it would be much; and as to that, it was architects, and architects only, who must think of education and inspiration, and go on learning every day of their lives.

Mr. Beresford Pite said what was needed was intelligent criticism of architecture—a school of criticism. What was wanted was guidance in the matter. The real public that they might with advantage educate was not the public from which architects derived clients, or the public which favoured them with criticism in the daily press; it was the jerry-building public, and if free classes for the education of the jerry-builder in architecture, with a supply gratis of designs for street houses, could be started, we should be doing a great deal. He was afraid of the pattern book, for people were not the simple children they had been, and they learnt from the pattern book without being better for doing so; and he was afraid that to the jerry-builders they would certainly do more harm than good.

Messrs. E. W. Hudson and H. G. Ibberson also spoke, and the author having briefly responded to the vote of thanks, the Meeting separated.

FRIDAY'S PROCEEDINGS.

The Responsibility of Local Authorities in respect of Building By-laws.

The sixth and final Meeting of the Congress was held on Friday morning at 11 o'clock, Mr. W. M. Fawcett in the chair.

Mr. Lacy W. Ridge read a paper on "The Responsibility of Local Authorities in respect of Building By-laws." He said that, so far as legislation was concerned, they must be content to wait in readiness to impress on a new Parliament the propriety of considering Bills for the extension of the metropolitan system respecting party-walls to the whole country, for some proper and equitable system of dealing with "ancient lights," and for such modifications as might be desirable in the Acts affecting buildings in non-metropolitan districts. Under the Public Health Act it was the local authority which made the by-laws, and it had power to alter or repeal them by a subsequent by-law. It was merely provided that they should not take effect till confirmed by the Local Government Board. Possibly the more important corporations might know their own power, but the constant excuse for harmful by-laws given by members of the smaller bodies he found to be that the by-laws were thrust on them by the Local Government Board. He thought that the smaller authorities and their advisers were quite without the knowledge and experience which would make them capable of struggling against the centralised Board at Whitehall, and so took whole what was sent to them. Therein architects as a body might very well effectively help those authorities. The first point on which architects ought to insist was that there should be definite and explicit regulations as to the deposit of drawings. It was extremely objectionable that unnecessary drawings should choke up the offices of the local boards, and that architects should be called upon to leave there in perpetuity plans of their works, to be studied at their leisure by the local surveyor—possibly a rival practitioner—and by his clerks. If, for the public good, persons about to build must make and deposit plans, they should at least be informed definitely what they had to do, and be put to as little trouble, and, above all, subjected to as little delay, as possible. Next he would urge them to get the local authorities to push the adoption of the Institute's by-law on party walls [Division D, p. 451, Vol. VI., Journal]. He would insist also on the alterations named under Division E [p. 452]. Finally, let them ask the local authorities to remember that it was local government which they had to administer: that they existed, not for the enforcement of a set of by-laws whether they were useful or not, but for the good of the community, and that their office would be best promoted in the matter of building when they carried with them the intelligent goodwill of those who built, which they certainly would not attain by curtailing unnecessarily the liberty of the subject.

The discussion on Mr. Ridge's Paper was opened by the reading of a communication on the subject from Mr. Wm. Henman (Birmingham). The matter, he said, must be constantly kept to the front, and reform persistently urged in official quarters as opportunities occur. Birmingham a few years ago had adopted by-laws with unreasonably stringent provisions as regards thickness of walls. Building owners protested, but could get no relief, until the city authorities themselves determined to erect some artisans' dwellings. The authorities then realised that the buildings could not be erected to pay, and had themselves to adopt the undignified proceeding of petitioning the Local Government Board for a modification of their own by-laws.

The discussion was continued by Messrs. Lewis Angell, Ralph Nevill, Maurice B. Adams, Charles Hadfield, A. E. Sawday, and the Chairman, and a vote of thanks was passed to Mr. Ridge for his Paper.

The Question of Engineers and Surveyors carrying out Architectural Works.

The final business of the Congress was the consideration of a series of resolutions having reference to the employment of borough engineers and surveyors in carrying out municipal works of an architectural character. The resolutions were down for motion by Messrs. Charles Hadfield (of Sheffield) and A. E. Sawday (of Leicester), and there seemed to be some misapprehension in the minds of one or two speakers at the Meeting that these gentlemen were personally responsible for the introduction of the subject into the Congress programme. The Secretary explained that this was not the case; that the initiative had been taken by the General Committee of the Congress, who considered the matter a fit subject for discussion, and were responsible for the framing of the resolutions; and that two members of the Committee—Messrs. Hadfield and Sawday—had been requested, and had kindly consented, to bring the matter forward in the form arranged by the Committee.

The resolutions were as follows:—

1. That in the interests of architecture it is inexpedient that buildings of a municipal character be designed and erected by engineers or surveyors having no architectural training.
2. That as a matter of sound finance, and in the interests of ratepayers, it is desirable that the duties of the Borough Engineer and Surveyor should not include work of an architectural character.
3. That it is detrimental to the interests of the architectural profession that buildings of a municipal character should be designed and erected by the Borough Engineer and Surveyor.

Mr. Charles Hadfield, in moving the first resolution, disclaimed all intention of disparaging the work of the civil engineer or of the land surveyor, whose calling demanded the exercise of high skill and ability, and whose work was of the first importance for the common good, much of it calling for sympathy and co-operation with that which was peculiarly the province of the architect. But he failed to comprehend how the training of the civil engineer or the land surveyor could possibly qualify him to originate or to carry out architectural work of a character high enough to appeal to cultured people. The American Institute of Architects had taken concerted action on this subject, with the result that a considerable reform had been brought about in the direction of removing architectural work from the control of the Official Surveyor. Municipal and governmental enterprise was more intelligently developed in this direction in France, Germany, and elsewhere on the Continent than it was at present in this country, adapting itself as it did to the æsthetic feelings of the people at large; and one was glad to note that already the representatives of more than one of our important municipalities were beginning to appreciate the fact. In the Middle Ages, from the time of the social movements of the thirteenth century, the spirit which was actuating our great municipalities to-day was the factor which called into being the best efforts of the architectural craftsmen throughout Europe, and made architecture *par excellence* the art of the people; and England from the thirteenth down to the eighteenth century was no exception in this respect, as many of our older towns and hamlets still bore evidence. He regretted to say, however, that such evidence, at the inappreciative touch of the surveyor-architect, was becoming a vanishing quantity. The ruin worked in this respect, notably in the last twenty-five years, was known only to those of them who devoted their holiday months to looking up the legacy left by a past which appreciated architecture at its true value; and it was against that all-round vulgarising and lowering of the standard of architecture to serve the needs of a grasping, sordid commercialism that he ventured upon these remarks.

Mr. J. D. Mould, of Manchester, seconded the resolution.

The Secretary read a communication from Mr. William Henman objecting that the resolutions as framed failed to express the objects they, as architects, should aim at, and that their intentions and aims were liable to be misunderstood, and might be frustrated should the resolutions be adopted in the terms in which they appeared on the paper. He moved that the following resolution be substituted as fairly embracing the three announced to be moved, and as expressing more faithfully the views of the architectural profession on the subject, viz.:—"That it is detrimental to the cause of architecture as an art, to the interests of the ratepaying public as a matter of sound finance, and to the architectural profession as a specially trained body, for salaried engineers or surveyors to local authorities to be employed in the design and superintendence of buildings requiring architectural education and experience."

Mr. C. H. Brodie seconded Mr. Henman's amendment, which was put from the Chair and lost.

Mr. H. Heathcote Statham moved that Mr. Hadfield's resolution be amended so as to read as follows:—"That in the interests of architecture it is inexpedient that important buildings of a municipal character be designed and erected by the official engineer or surveyor to the municipality."

Mr. Maurice B. Adams seconded.

Mr. Lacy W. Ridge objected to the resolutions altogether, and moved that none of them be put. Messrs. Ralph Nevill and H. Hardwicke Langston spoke in the same sense, and, Mr. Ralph Nevill having seconded, Mr. Ridge's proposition was put to the Meeting and lost.

Mr. Charles Hadfield expressed his willingness to accept Mr. Statham's amendments, but the Chairman being pressed to put the matter to the vote, a show of hands was called for, whereupon 14 voted for Mr. Statham's amendment, and 5 against.

Mr. Statham's amendment was then put as a substantive motion, and carried.

Mr. A. E. Sawday having formally moved the second resolution, Mr. Statham proposed that the question be not put, which the Meeting unanimously agreed to.

Resolution No. 3 was withdrawn without discussion, upon the motion of Mr. J. S. Gibson, seconded by Mr. Statham.

This closed the proceedings.

Visits to Messrs. Holloway Brothers, and to Messrs. James Powell & Sons.

On Friday afternoon the first visit was paid to Messrs. Holloway Brothers' new works at Lambeth, the chief feature of interest being the great area of machinery entirely driven by electric force. After tea, kindly provided by Messrs. Holloway Brothers, the party proceeded by special omnibuses to the glass works of Messrs. James Powell & Sons at Whitefriars, where they were met by members who had not made the previous visit. For them Messrs. Powell & Sons had also kindly provided tea.

The Annual Dinner.

The Annual Dinner, specially arranged this year to form part of the festivities in connection with the Architectural Congress, was perhaps the most successful event of the kind that the Institute has held for many years. Needless to say, the gracious acceptance by H.R.H. the Duke of Cambridge of the Council's invitation lent additional interest to the function and contributed in no small degree to its success. The undoubted sincerity of the welcome accorded him, and the enthusiastic reception of his remarks in response to the Royal toasts, seemed greatly pleasing to His Royal Highness. The venerable prince remained to the close of the proceedings, and on taking leave of the President expressed in the kindliest terms the pleasure he had had in meeting so representative a gathering of the architects of the country.

The Dinner took place at the Whitehall Rooms on the 22nd inst. Members and guests, to the number of 270, were received by the President in the reception room adjoining the banqueting-hall, and the President afterwards presided at the Dinner. Among the guests of the Institute, besides His Royal Highness, were the Archbishop of Canterbury, the Bishop of London, Lord Welby, G.C.B., Lord Claud Hamilton, Lord Strathcona and Mount Royal, G.C.M.G., Lord Alverstone, Master of the Rolls, the Lord Mayor, Sir Henry Howorth, K.C.I.E., Sir William Richmond, K.C.B., R.A., Sir L. Alma Tadema, R.A., Sir Benjamin Stone, M.P., Sir Henry Trueman Wood, Alderman and Sheriff Sir W. P. Treloar, the Chairman and Vice-Chairman of the London County Council, Sir E. Maunde Thompson, Colonel FitzGeorge, C.B., in attendance on H.R.H. the Duke of Cambridge, Mr. T. W. Russell, M.P., Mr. A. W. Soames, M.P., Mr. E. J. Gregory, R.A., President of the Royal Institute of Painters in Water Colours, the President of the Royal College of Physicians, and Presidents of other representative bodies. The menu card, a reproduction of the front page of which is appended, was designed by Mr. Selwyn Image, Master of the Art Workers' Guild. The following is a list of the company present:—

Mr. Maurice B. Adams [*F.*]; Sir L. Alma Tadema, R.A., [*H.A.*]; The Right Hon. Lord Alverstone, Master of the Rolls; Mr. J. Macvicar Anderson, F.R.S.E., *Past-President*; Mr. Lewis Angell [*F.*]; Mr. Richard Armstrong [*F.*]; Mr. R. Stephen Ayling [*A.*]; Mr. Frank T. Baggallay [*F.*]; Mr. Thomas J. Bailey [*F.*]; Mr. R. Shekleton Balfour [*A.*]; Sir Wyke Bayliss, President Royal Society of British Artists; Mr. F. W. Barrett; Mr. G. H. Barber; Mr. George Barber; Mr. Herbert J. Bartleet; Mr. Frederick Batchelor [*F.*]; Mr. John Belcher, A.R.A., *Vice-President*; The Rev. Canon Benham; Mr. A. Betts-Chapman; Mr. Andrew Beveridge; Mr. Hippolyte J. Blanc, R.S.A.; Mr. Thomas Blashill [*F.*]; Mr. Reginald Blomfield; Mr. Edward Boardman [*F.*]; Mr. S. Bolton; Mr. Francis Bond [*H.A.*]; Mr. R. H. Boyce, C.B.; Mr. James Boyton; Mr. A. R. Brede [*A.*]; Mr. C. W. Brooks [*A.*]; Mr. James Brooks [*F.*]; Mr. J. M. Brydon, *Vice-President*; Mr. G. B. Bulmer [*F.*]; Mr. J. J. Burnet, A.R.S.A. [*F.*]; Mr. J. Butler [*F.*]; Mr. J. Dixon Butler; Mr. T. C. Caldwell; H.R.H. the Duke of Cambridge, K.G.; His Grace the Archbishop of Canterbury; Professor S. Henbest Capper [*A.*]; Mr. W. D. Caröe, F.S.A. [*F.*]; Mr. Arthur Cates [*F.*]; Mr. Basil Champneys; Mr. H. J. Chaney, F.R.A.S.; Mr. Henry Chapman; Mr. F. Chatterton [*A.*]; Mr. J. B. Chubb; Dr. W. S. Church, President Royal College of Physicians; Mr. Clarence T. Coggin [*A.*]; Mr. Thomas E. Colcutt [*F.*]; Mr. H. H. Collins [*F.*]; Mr. W. G. Cooke [*A.*]; Mr. R. Elliott Cooper; Mr. W. White Cooper [*F.*]; Mr. G. R. Crickmay [*F.*]; Mr. Santo Crimp; Mr. Alexander Cullen [*F.*]; Mr. Alfred Culshaw [*F.*]; Mr. A. Cunningham;

Seal embossed in gold.

THE
ROYAL INSTITUTE
OF BRITISH
ARCHITECTS

ANNUAL DINNER
FRIDAY JUNE 22
1900

WHITEHALL ROOMS
THE
HOTEL METROPOLE
LONDON

Mr. T. W. Cutler [*F.*]; Mr. Alfred Darbyshire [*F.*]; Mr. G. B. Davis; Mr. R. Philip Day [*A.*]; Mr. A. Dixon; Mr. W. H. Dickinson, Chairman London County Council; Sir Thomas Drew, R.H.A., President Royal Institute of Architects of Ireland; Mr. R. Manning Driver; Mr. O. C. Edwards; Mr. W. Emerson, *President R.I.B.A.*; Mr. W. M. Fawcett [*F.*]; Mr. Alfred Featherstone; Dr. George P. Field; Mr. T. Phillips Figgis [*A.*]; Colonel FitzGeorge, in attendance on H.R.H. the Duke of Cambridge; Mr. Ernest Flint [*A.*]; Mr. Arthur S. Flower, F.S.A. [*A.*]; Mr. Norman Forbes; Mr. Montague Fordham; Mr. Sydney Fowler [*A.*]; Mr. George Fox [*A.*]; Mr. G. Frampton, A.R.A. [*H.A.*]; Mr. Ernest George [*F.*]; Mr. J. S. Gibson [*A.*]; Mr. William Glover [*F.*], President Northern A.A.; Mr. F. T. W. Goldsmith [*A.*]; Mr. R. J. Goodacre [*F.*]; Mr. H. R. Goodrham; Mr. Alexander Graham, *Hon. Secretary*; Mr. C. W. Greenwood; Mr. E. J. Gregory, R.A.; Mr. John Griffiths; Mr. E. A. 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Sabel; Mr. Leopold Salomons; Mr. Albert E. Sawday [*F.*]; Mr. W. H. Seth-Smith [*F.*]; Mr. B. Priestley Shires [*A.*]; Professor F. M. Simpson; Mr. Harry Sirr [*A.*]; Mr. John Slater, *Vice-President*; Mr. F. Bennett Smith [*F.*]; Mr. J. Osborne Smith [*F.*]; Mr. P. Gordon Smith [*F.*]; Mr. Sidney R. J. Smith [*F.*]; Mr. S. Taylor Smith [*F.*]; Professor T. Roger Smith [*F.*]; Professor Elsey Smith [*A.*]; Mr. A. W. Soames, M.P.; Mr. J. E. Spain [*A.*]; Mr. R. H. Spalding [*A.*]; Mr. Henry Spalding [*F.*]; Mr. T. R. Spence [*F.*]; Mr. H. Heathcote Statham [*F.*]; Sir Benjamin Stone, M.P.; The Right Hon. Lord Strathcona and Mount Royal, G.C.M.G.; Mr. Arthur Sykes [*A.*]; Dr. J. Sykes; Mr. A. W. Tanner [*A.*]; Mr. Henry Tanner [*F.*]; Mr. J. C. Tanner; Sir John Taylor, K.C.B. [*F.*]; Major Harley Thomas; Mr. J. Lewis Thomas [*H.A.*]; Sir E. Maunde Thompson, K.C.B., Principal Librarian, British Museum; Lieut.-Colonel J. Stratten Thompson; Mr. George Thudicum; Mr. A. Hessell Tiltman [*F.*]; Mr. A. M. Torrance, Vice-Chairman London County Council; Alderman and Sheriff Sir William Treloar; Mr. W. H. Underhill; Mr. E. M. Bruce Vaughan [*F.*]; Mr. H. E. Vickers; Mr. E. Vigers [*F.*]; Mr. F. Wallen [*A.*]; Mr. Thomas Henry Watson [*F.*]; Mr. A. Maryon Watson [*A.*]; Mr. Aston Webb, A.R.A. [*F.*]; Lord Welby, G.C.B.; Mr. Frederick Wheeler [*F.*]; Mr. T. B. Whinney [*A.*]; Mr. W. Henry White [*A.*]; Mr. A. Needham Wilson [*A.*]; Mr. Alfred Williams [*F.*]; Mr. F. E. Williams [*A.*]; Mr. R. Winder; Mr. E. W. M. Wonnacott [*A.*]; Sir Henry Trueman Wood; Mr. Edmund Woodthorpe [*F.*]; Mr. C. Woodward; Mr. W. Woodward [*A.*]; Mr. Charles H. Worley [*F.*]; Mr. R. Selden Wornum [*F.*]; Mr. Nash Wortham; Mr. Thomas Worthington [*F.*]; Mr. Thomas C. Yates [*A.*]; Mr. Clyde Young; Mr. G. P. K. Young [*A.*]; Mr. Keith D. Young [*F.*]; Dr. L. Unwin Young; Mr. William Young [*F.*]; Mr. W. J. Locke, *Secretary*, and others of the Institute Staff.

Grace was said by the Archbishop of Canterbury, and at the close sung by a Quartette of the Abbey Glee Club. A selection of Songs and Glees had been arranged to be given during the evening by the Quartette, but the toasts occupied all available time, and only two numbers of the programme were given. On the toast of "The Queen" being given the whole company joined in the National Anthem.

The President, in proposing "The Queen," said that one of the first acts of Her Majesty, after her accession in 1837, was to confirm the Royal Charter granted to the Institute by King William the Fourth. The Prince Consort took very great interest in the work of the Institute, and had occupied the chair at the Council and General Meetings.

"The Prince and Princess of Wales and the Royal Family" was the next toast given by the President.

The Duke of Cambridge, replying for the Royal Family, said we had, he hoped, finished one war, but who knew whether we were not at the beginning of another? The outlook was very remarkable, though he would not say dangerous, for he had such confidence in the Empire's resources that he felt sure we should come out well whatever might arise. Speaking of the Royal Family, he said that the Prince of Wales, the Duke of York, and the Duke of Connaught all did their best to support the interests of their country, and he himself had always tried to do so, and would continue in that endeavour as long as God's providence allowed him. In conclusion His Royal Highness congratulated members upon the success of the Institute and of its efforts on behalf of their great art.

Mr. J. Macvicar Anderson proposed "The Church and State."

The Archbishop of Canterbury, in reply, said the profession to which they belonged, that of the art of architecture, was one of the very highest value, certainly to the Church, and in quite a different sense, he might say, to the State. Certainly to the Church, because the Church derived very great benefit from the kindling of the highest emotions which art such as that of architecture was capable at times of stirring within the soul. He could give two illustrations of the feelings with which men regarded the art of architecture. He remembered that once, as he was looking at the height and dignity of a cathedral, a very religious and good man remarked to him, "The cathedral is religion," and he meant what he said. He felt through and through that the very stones of the building, the beauty of it, its proportions, its associations, had the power of drawing his soul upwards. The way in which it filled the mind with the highest and most heavenly emotion, and the way in which it drew the affections—all this was a service to the Church of the very highest character. There was hardly anything which pleased the worshipper more thoroughly than to enter a building which in every line spoke of man's reverence to God, and reminded us of God's loving kindness to man. Who could go into a cathedral and observe its solemnity, its wonderful grace, and its extraordinary massing of power, and not feel that there, at any rate, he could offer up his worship when everything surrounding him helped him to do so? The second anecdote he desired to relate was of quite a different kind. He was standing once at the west front of Peterborough Cathedral, and as he stood there gazing, a man came up behind him and said, "Britisher, it is very filling at the price!" It was also a great service to the nation and the State that we had scattered about all over the land monuments of our ancient history enshrined in buildings, and that we had everywhere buildings which told us of great men of the past, and which reminded us of ancient records of what our forefathers had done. Was it not possible that in this way the art of the past inspired the lives of later generations?—and if we were to read the history of our country, as surely all true Englishmen would desire to read it, one book which told us of it in many ways, by means of stirring many emotions, was the remains of those buildings that in past times marked different epochs of the history through which the nation had passed.

The Bishop of London proposed "The Fine Arts." He said that architecture differed from all other arts in being frankly democratic. It appealed to the eye, and nobody could escape it. From other arts we could have a certain amount of seclusion, but architecture obtruded itself upon us in some shape or another wherever we went. Architecture was a great educator, and we did not know how much a man's artistic instinct sprang from the architecture by which he was surrounded, or how much it was limited by it. How differently we were impressed when we walked down Regent Street and Victoria Street; and if we compared the two impressions we should see that architecture must necessarily form the basis of the artistic instinct of the ordinary man. Again, architecture was the nursing mother of all the finer arts, and none could exist without it. The most entrancing music would not be listened to in the drizzling rain in the open air, and pictures would lose much of their appreciation if they were not sheltered by architecture. He supposed that architects would rather that they could always work for the Church than for the State, because they would certainly have a freer hand, and need not be restricted by any regard for the personal convenience of those who would occupy the buildings. Architects had constantly to struggle against mechanical forces, which unfortunately tended to drag them down from their lofty aspirations, and therefore the necessity of constant communion with the other arts. Architects drew their inspiration from them from time to time, and it was natural that they should give them a high place in their esteem and gratitude. He was glad that there was a movement at the present time to combine the arts more closely together, and he was delighted to couple with the toast the name of one who was himself an example of that intercourse between arts—Sir W. B. Richmond, who had the opportunity of furthering the great design of Sir Christopher Wren.

Sir W. B. Richmond, K.C.B., R.A., in reply, said that the fine arts in this country were progressing with a rapidity that was quite remarkable. In the presence of this assemblage of architects he did not dare to express his opinion upon their art, but he would like to refer to two buildings—he might mention many others, but he took these two as examples. One was very near the Palace of Westminster and was received by a storm of abuse, and in the Palace of Westminster some would-be critics talked a great deal of nonsense about it. He alluded to that splendid building by Mr. Norman Shaw. The other building was by Mr. Bentley, which he visited for the first time two days ago, and he had very rarely been so impressed as when first entering that original and manly structure. With regard to art, they should not forget that at this moment there were established in London, and in various centres of commerce and industry, technical schools which were giving chances to artisans to become artists.

Never, as far as he could remember, had the crafts stood in such good stead as they stood now. It had been the fashion lately to run down English art. It had been the fashion in certain journals. Journalists had made copy out of it by running down English artists in favour of Frenchmen, but it was high time that we took ourselves seriously and respected the country in this matter as we did from a commercial, military, and naval aspect.

Lord Alverstone proposed "The Royal Institute of British Architects and the Allied Societies." He said that the Queen had throughout indicated her interest in the Institute. When the history of this century came to be written there was no art —and he spoke without exaggeration—which had shown greater development during the nineteenth century than the art of architecture. Whether they considered ecclesiastical or domestic architecture, it would be found that each branch had made immense progress during Her Majesty's reign. At the beginning of the century architecture had perhaps fallen as low as it possibly could. One could not imagine anything more depressing than to pass through streets of houses built in the early part of this century; and the same remark applied to many churches throughout the country built at the same period. We had seen what changes had taken place in ecclesiastical architecture by the art of such men as Scott, Pearson, and Blomfield; and during the last twenty or thirty years there had also been a most extraordinary development in domestic architecture. Houses were now being built upon more liberal plans, and crowning pieces of architecture were springing up in all directions. There had indeed been enormous progress, and the Institute had contributed to it in no small degree. Of late years the Institute had allied itself with kindred societies in every part of the United Kingdom and even in the colonies, and he rejoiced to think that in the mutual communication between the Allied Societies and the Institute professional men could learn from one another. They all had opportunities of communicating ideas, and this was of immense value.

The President, in acknowledging the toast, said he was happy to tell them that, with regard to the prosperity of the Institute, their numbers were at the present time considerably in excess of what they had been in any previous year; and he might also say that the influence of the Institute was yearly extending. Scarcely a week passed without the Institute being asked for its opinion and advice from all parts of this country and the colonies. The prosperity of their body must depend a very great deal upon the way in which they followed out the ideal that was in the minds of the founders of the Institute; and that ideal was clearly stated in one of the clauses of their Charter. Their aim was a high one, and they had always kept it before them in all the years of the existence of the Institute. With this aim in view they some years ago instituted examinations for the improvement of the rising generation of architects, and in later years these examinations had become compulsory. No person could now become an associated member without having passed a very fair examination in practical knowledge necessary for the carrying on of his profession, and also in design. Mr. Ruskin wrote that the study of the beautiful in nature and art might tend to elevate humanity and lead them to a higher life. Architecture should teach us good lessons. Were this idea carried out in our architecture, what object-lessons a walk through our streets would present to-day! Our churches and other places of worship would teach us the beauty of religion; our hospitals and asylums and poor-law buildings would teach us the beauty of charity; our mercantile buildings would illustrate the beauty of honest hard labour; our Government buildings the beauty of righteous government, and our Admiralty and War Office the beauty of patriotism. At the present time in walking along our streets how little we saw to teach us even the history of our land! It was a very hopeful sign to find a powerful public body like the London County Council, in incorporating a great change like the Holborn and Strand Improvement, desiring to secure the co-operation of architects in obtaining a fine scheme for this great metropolitan improvement; but he was not quite sure that the London County Council had altogether grasped the difficulty which surrounded such an undertaking, or that they had proceeded in the right way. In order to obtain fine designs they offered a small premium to certain architects to prepare designs, with the condition attached that the drawings were to remain the absolute property of the London County Council to do what they liked with, and that the architects were to expect no further remuneration. A fee of £250 was offered for a design of something like a mile of frontage, but the Council would not guarantee that the architect whose design was accepted should superintend the carrying out of his own work. He could not but think that this showed a lack of intelligence. The man who made the design for such a scheme as this should, if it was to be a success, carry out his own work and detail so as to be able to realise his imagination. He did not think that in the public interest it could be considered encouraging to the profession, nor did he think it could be considered satisfactory in the public interest. With regard to the architects themselves who were willing to sacrifice their talents and time on such terms as these, they could only give them the highest praise and the greatest commendation.

He did not think the London County Council had in this case exercised the same large-mindedness as they had in other matters, such, for instance, as the housing of the poor, in which their action over and over again had been most praiseworthy.

Sir Thomas Drew also replied to this toast on behalf of the Allied Societies.

Mr. W. M. Fawcett proposed "The Guests," mentioning that this was the first time they had had a Master of the Rolls as a guest.

Lord Claud Hamilton, in responding, said he trusted that mere materialism would not interfere with the beauty of their architecture. They should get their representatives in Parliament to compel the Government to do its duty by affording opportunities for the art of architecture in this country. Any Englishman returning from Paris was imbued with shame towards the architecture of this country.

This concluded the proceedings, and the guests separated at about 11.45.

Visit to Greenwich Hospital.

The last visit was made on Saturday to Greenwich Hospital. A hundred visitors went on by special steamboat, lunched at an hotel, and were conducted over the Hospital by Mr. William Crisp, Surveyor to the Admiralty, and over the Royal Naval College, kindly thrown open to the Congress by the Admiral President. Before leaving for London the whole party were entertained to tea on the lawn of the Old Manor House by Mr. Thomas Dinwiddy [*F.*]. Perfect weather contributed largely to the day's enjoyment.

THE BENDING STRESSES ON FLAT RECTANGULAR CONCRETE FLOORS.

MR. W. DUNN, in his Paper on this subject in the Institute JOURNAL of 26th May 1900, lays down as a fundamental proposition that a square slab supported on two opposite edges is half as strong as the same slab supported on its four edges. He quotes Professors Rankine and Unwin in support of this proposition.

Professor Unwin is happily in the land of the living, and able to answer for himself. But as Professor Rankine has long since joined the great majority, we who survive may be permitted to protest against such misinterpretation of his teaching as we may occasionally have thrust upon us in his name.

Rankine himself would have been the last to claim infallibility, or to impose his own authority in spite of natural law. Therefore, in the passage which Mr. Dunn has unfortunately chosen for his own purpose, Rankine expressly cautions his readers that "the following formulæ are founded on a theory which is only approximately true, but which, nevertheless, may be considered to involve no error of practical importance." The seven formulæ immediately succeeding this caution are for the following conditions:—1. Square plate, load uniformly distributed; 2, square plate, load collected in the centre; 3, oblong plate, load uniformly distributed; 4, oblong plate, load collected in the centre (length being less than 1·19 breadth); 5, oblong plate, load collected in the centre (length being equal to, or greater than, 1·19 breadth); 6, circular plate (of diameter equal one side of square plate referred to in 1 and 2), load uniformly distributed; 7, circular plate, load collected in the centre.

Of these seven formulæ Mr. Dunn selects Case 3 as serving his purpose. He passes over Cases 1 and 2. But Cases 1 and 2 contain very plain proof that Rankine did *not* teach, as Mr. Dunn teaches, that plates resting on their four edges are only twice as strong as when resting on two opposite edges. These two formulæ are as follows:—

Case 1, square plate, load uniformly distributed:

$$M=\frac{Wb}{16}.$$

Case 2, square plate, load in centre:

$$M=\frac{3Wb}{16}.$$

It becomes necessary to inquire, how did Rankine arrive at the conclusion, expressed in these formulæ, that the square plate in Case 2 is three times more severely stressed than in Case 1? These formulæ appear on p. 544 of *Civil Engineering*, and we may find our question answered by referring to page 152 of the same great work, where the following passage appears:—

> "The common centre of gravity of a set of bodies whose several centres of gravity are known is the centre of parallel forces for the weights of the several bodies, each considered as acting through its centre of gravity."

If now we apply this doctrine (which is not peculiar to Rankine, but is simply the ordinarily accepted doctrine of the resultant of parallel forces) to Cases 1 and 2 above quoted, it is easy to see that when the load is concentrated on the middle of the square plate, its leverage, and therefore its stress, is three times greater than when equally distributed; for, in the case of equally distributed load, each bearing-edge of the slab supports one quarter of the total load disposed over a triangular area whose centre (as at x on fig. 1) is at *one-third* the perpendicular height of each triangle, *i.e.* at one-third the distance from the bearing edge to the centre of the plate.

When Rankine assigned to Case 2, as per formulæ above quoted, three times the stress of Case 1, he did so simply because it was obvious to him that the leverage from the centre of the plate to its edge is three times greater than from x to edge.

Rankine nowhere stated, as Mr. Dunn has, that the plate on four edges has but *twice* the strength of plate on two opposite edges only.

The principle above quoted, which governs the resultant of parallel forces, renders undeniable the fact that a square plate on its four edges is *three times* stronger than on its two opposite edges only.

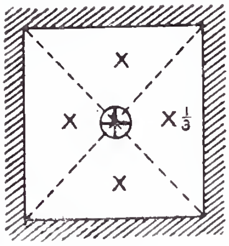

FIG. 1.

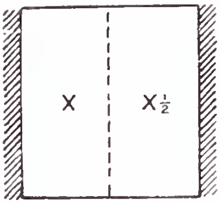

FIG. 2.

Thus (see fig. 2) it is obvious that when only two edges of the square are supported, *half* the total weight distributed uniformly over the plate bears on each edge, and has a leverage of *half* the distance from bearing edge to middle of plate.

If, then, we say the whole load = 4 tons, and the breadth of the square plate = 6 feet, in the respective cases referred to the stresses would vary as follows:—

Square slab resting beam-like on two ends, and load equally distributed: $M = 2$ tons × $1\frac{1}{2}$ feet = 3 foot-tons.

Square slab resting on two ends, with load all on middle: $M = 2$ tons × 3 feet = 6 foot-tons.

Square slab resting on four edges, with load equally distributed: $M = 1$ ton × 1 foot = 1 foot-ton.

Square slab resting on four edges, with load on middle: $M = 1$ ton × 3 feet = 3 foot-tons.

Thus we see that a square slab, resting on four edges and loaded in the middle, is equally stressed by that load as would be the same slab resting on two ends only and having the same load equally distributed.

The fact that this doctrine does not agree with Mr. Dunn's theory of "elemental strips" suffices to put the latter out of court. Mr. Dunn's theory of the strips fails, because, though it would hold good of the *two* strips only, if there were only the two, as his diagram fig. 2 shows, it cannot possibly hold good where there are a great number, so to speak, of strips crossing each other, not once only, as in sketch A, but very many times, as in sketch B.

Much more might be advanced in disproof of this "elemental strips" theory adopted by Mr. Dunn; but the fact that it fails to agree with the well-known laws which determine the action of parallel forces is disproof enough.

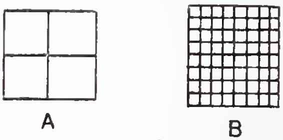

FIG. 3.

As regards rectangular slabs, the confessed imperfection of the Rankine formulæ 3, 4, and 5 above quoted is manifested by the proposed division of such slabs arbitrarily into two groups, one whose length does not exceed 1·19 breadth, and the other whose length does exceed that empirically assigned limit.

Mr. Dunn agrees with or quotes Rankine when he says that the tendency of the rectangular slab is to split along its long axis. But that crude statement calls for material qualification.

The slab supported on four edges will split along lines whose directions are determined by the leverage of the load, and that leverage is governed by the shape of the slab.

Thus if the slab be square, the tendency is to begin splitting from the centre, which is the point of greatest stress, and to continue splitting along the mitres towards the corners of the slab, so that in the result the slab will be broken into four triangular pieces of equal area, equal leverage, and equal length of supporting edge. The tensional strength of the slab resists this splitting tendency on the under side of the slab, while the compressional strength resists it on the top side. It is very noteworthy that these tensional and compressive resistances act normally, or at right angles, to the mitre lines along which the crack seeks to take effect, and if we realise what this state of things involves, we shall come to understand that the four quarters, A B C and D, are dependent on each other for support. By their mutual juxtaposition and cohesion these four quarters do not in the least degree burden each other, but really assist to sustain each other, both by their mutual tensions and compressions one against the other.

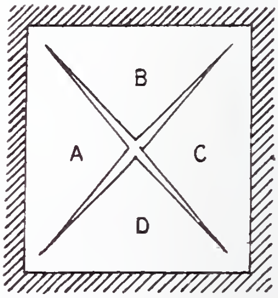

FIG. 4.

Bearing this fact in mind, when we come to consider the stress conditions of rectangular slabs, we find that as C does not in any degree increase the stresses on B and D, but really balances them, so likewise X balances the stresses on W and Y. If we consider C and X as *one*, we may regard this *one* as the *keystone*, supporting, and being supported by, the stones B D W Y. We may distinguish the stresses in these slabs as those at the mitre lines and those at the edges; and we may thus come to appreciate the fact that, in comparing the square slab to the rectangular slab of equal breadth but double length, there is no difference whatever between the intensity of greatest stress in the two; for each edge-stress is absolutely equal, and each mitre-stress is also equal; and as to the divisional line between C and X, this is under exactly the same kind and degree of stress as each of the edges. It may be objected, How can that be so when the support under that line is removed? The answer is that the horizontal stresses in C being balanced by those of X, no vertical stress results so long as the juxtaposed edges of C and X can endure the horizontal stress.

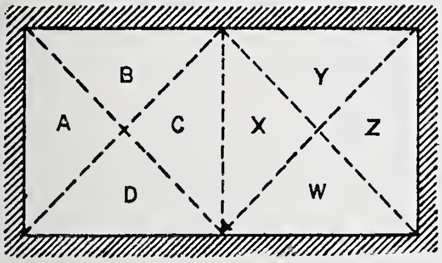

FIG. 5.

A practical appreciation of this view of the case will render unnecessary, as well as misleading, the diagrams prepared by Mr. Dunn to show a variation (which does not exist) between the stress of square slabs and the stress of equally thick rectangular slabs of equal breadth to the square. For while the above considerations make evident the fact that the stress on the rectangular slab is the same as on the square slab of width equal to that of the rectangle, Mr. Dunn's diagram fig. 3 shows that the rectangle whose length is twice its breadth has to bear a bending moment *in excess* of that of the square slab of equal width, *as* ·94 *exceeds* ·5!

As an improvement on fig. 3, Mr. Dunn offers fig. 6, a diagram which shows that a slab of given width, whose length is twice its breadth, has a bending stress *less* than that of a square slab of equal width, *as* ·352 *is less than* ·375!

It is hard to understand how Mr. Dunn's fig. 3, which represents the rectangular slab of width equal to that of the square, and of length double that width, as having a bending moment greater than that of the square, as ·94 exceeds ·5, can be reconciled to his fig. 6, which represents that the bending stress on the square slab is greater than that of the rectangular slab before described, as ·375 is greater than ·352.

I am sorry to have thus to criticise a Paper which bears evidence of painstaking study; but surely while Mr. Dunn thus differs from himself, he will not wonder at others who find it impossible to adopt his mode of reasoning, or his contradictory conclusions.

FRANK CAWS.

Sunderland: 18th June 1900.

REVIEWS.

ARCHITECTURAL COMPOSITION.

Principles of Architectural Composition: an Attempt to Order and Phrase Ideas which have hitherto been only felt by the Instinctive Taste of Designers. By John Beverley Robinson. With an Introduction by Russell Sturgis. Dedicated to William Robert Ware, Professor of Architecture at Columbia University. 8o. New York. 1899. Price 10s. net. [The "Architectural Record" Co., New York; London Agent, B. T. Batsford, 94, High Holborn, W.C.]

We are inclined to think that this book will be voted by the majority to be stiff reading, supposing it to escape the more summary and descriptive verdict, characteristic of students, one which we are bound to say suggested itself after two or three struggles with its intricacies. In the first place the book is very American in drawing its illustrations from any and every source, quite ancient or most recent, so that you are presented with argumentative illustrations such as, say "a Commencement Hall" from New Jersey, and a drawing of Norwich Cathedral, on one and the same page. It requires an unusual elasticity of mind to adjust one's perceptions with such rapidity as this, and we fear that some otherwise excellent argument may often be somewhat obscured by the repellent effect of its illustration.

What we understand to be the tendency of the book is one towards a theory, capable of demonstration, of right and wrong in architectural grouping, the basis of proof being essentially mathematical in character, and depending on theorems such as that equal parts, double composition, and equal triple division, &c., are all bad. In fact, at times we are reminded of the dry *catalogue raisonné* methods of Whewell's day, while in other places the impression forces itself upon us that we are dealing with nothing more substantial than the common rules or prejudices of the studio elaborated into book form.

The author takes care to dismiss unmanageable examples by attributing our pleasure in them to superadded qualities, as richness, association, colour, &c. This, of course, clears the ground, but also largely begs the question; for before we can draw up our theorem we must establish the basis of facts, the preliminary difficulty being to determine which are the beautiful buildings.

As men decide these questions for themselves, we have only the basis of general agreement, a *status* of admitted and constant admiration, to work upon; and, by a most useful convention, we agree to draw our principles from a study of old work possessing these characteristics. Now, as it seems to us, the drawback of such books as that under review is that of sending the student to his task with arbitrary preconceived notions of good and bad, calculated to check his own perceptions and to bias his judgment, before he has slowly and patiently mastered the facts. Prematurely stimulated, criticism is likely to check that diligent study which is the only sure basis for sound opinion, and rapid methods of determining the right and wrong of ancient architecture are, therefore, to be viewed with suspicion.

Further, there is considerable danger to designers in such easy roads to composition, in that architectural design cannot be divorced from considerations of suitability, material, convenience, sentiment, and association, all of which are gall and wormwood to the constructors of theorems for design, because of the impossibility of including such elements in their system.

The more study, however, we give to old work the more convinced we are likely to become of the constant presence of such factors in past, as in present, work, and, consequently, the more sceptical we are as to the truth of these abstract methods of classifying good and bad work.

Nesfield, we know, was a devoted student of old Sussex cottages, and attributed much of his skill to their study, and here, at any rate, we can see that successive growth has had much to say in the charming grouping that they present. It seems to us important for a student, therefore, confronted with the difficult problems of modern design, to have at his command a stored recollection of old instances that will aid him in devising a way out of his difficulties. This will be far more conducive to spontaneous and successful design than what may be, after all, only a system of set prejudices, however much decked out as principles of mathematical certainty.

Take, for instance, the most favourite and plausible objection—that of dividing equally. The author admits the three equal stories of the Farnese Palace,* but adds that the great cornice at the top gives unity. Exactly; and so an elevation on paper equally divided will not be seen as such should the upper story be projected forward. Again, six inches of additional height will not appreciably affect the mathematical division of the design, but should it represent the depth of the eaves, having a flat soffite of some projection, it will powerfully influence the visual proportions of the building when erected. Considerations of this kind have always discomfited the triangular theorist, as in this book we observe that a diagonal system is equally astray, owing to the difficulty of placing the points from which any such lines are to be drawn. On an elevation of the Farnese as given in this work, for instance, the line starts from the outermost lower corner of the stone seat at the base of the wall, and ends at the necking of the great cornice below the frieze. On the façade of a Greek temple, however, it reaches from the outer edge of the column, above the steps, up to the point at which the projecting soffite of the cornice commences; the latter is obviously a better, but still it is a different, system.

Again, in dealing with tower design, on an elevation of an American version of the Giralda, diagonals to each story are given, but it is impossible to say on what principle they are drawn. The writer happens to have made a careful measured drawing of the Spanish original, and has been at pains to draw on it diagonals similar to those in the book, while at the same time suggesting by a dotted line what would appear to be more, or equally, rational points of departure. The result is of a very inconclusive character, and quite fails to suggest either that such a system was thought of by the designer, or is the reason of its admitted gracefulness. On the other hand examination on the spot does reveal a governing condition of the design, and that is the existence of the inner shaft of the original Moorish Tower which would not perhaps otherwise be suspected, but which is now displayed by the stripping off of the plaster coating. The Renaissance architect of the upper stages of the Giralda overcame—with a success to which the admiration of generations of subsequent artists has testified—local difficulties that might have beaten a weaker man. For, in spite of its rough and somewhat primitive detail, the general effect of the tower is a triumph of grace and beauty, in proportion and outline. It is, of course, open to the author to hold that the revision excels the original, just as a countryman of his at Seville expressed his indifference, on the ground that when at home he resided near Maddison Square!

In regard to another point we think most students will agree with the general proposition that a certain scale of proportion may run through a design—*i.e.* that in tall buildings openings, &c., will be elongated, as in low, sturdy examples they will be similarly squat. In old cottage design, for instance, windows, many lights wide, are pre-

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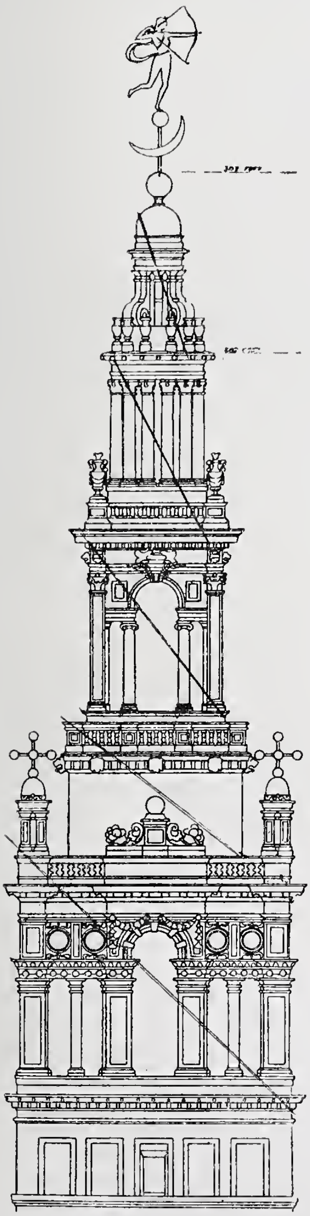
* It is known that Sir Charles Barry in the Reform Club departed from this idea with regret, while suiting his third tier of windows to its modern condition of a bedroom floor.

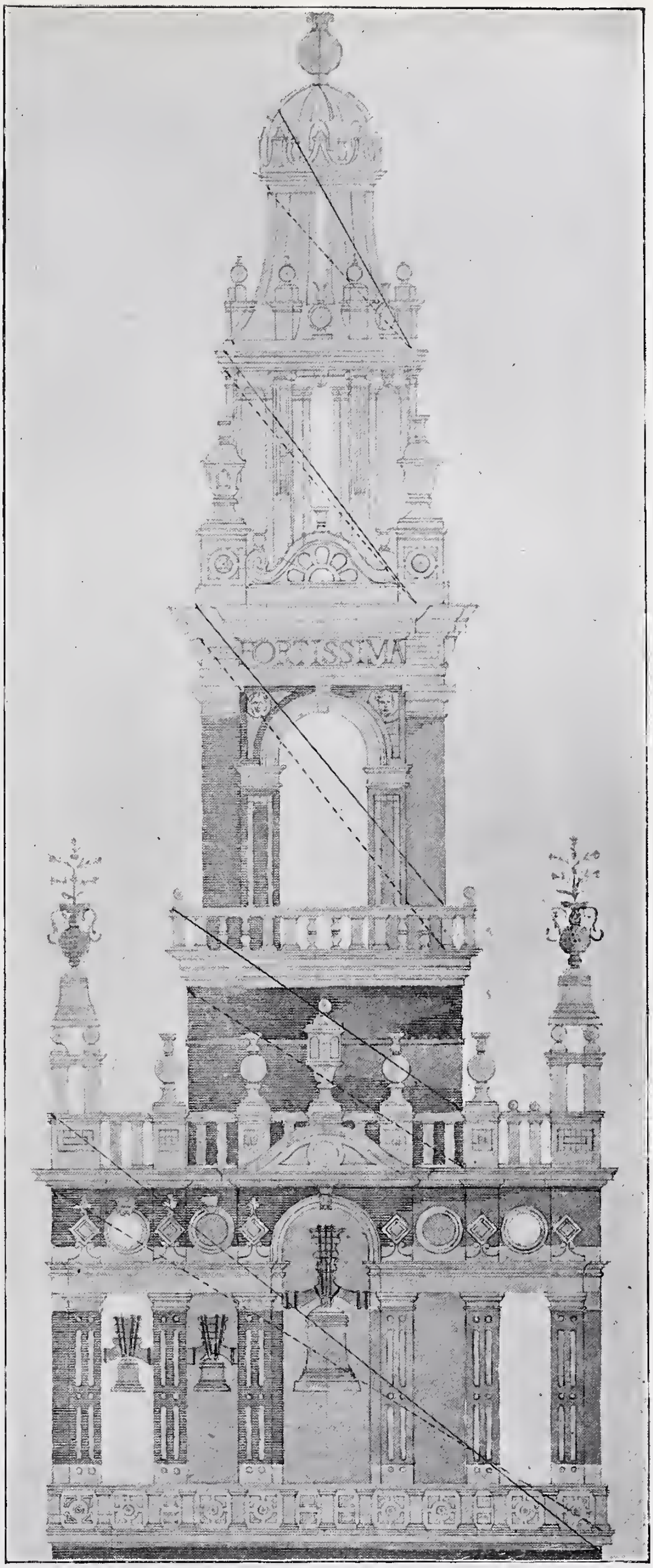
Pitch of the Diagonals.

PLAN	STAGES	GIRALDA		MADDISON SQ.
		Solid	Dotted	
Square . . .	1	39°	33°	45°
„ . . .	2	36°	35°	39°
Square with circular angles	3	52°	53°	52°
Circular . .	4	54°	51°	64°
„ . .	5	60°	49°	72°



UPPER PART OF TOWER OF MADDISON SQUARE GARDEN.

Each story above the lowest is elongated upward beyond the arithmetical ratio.



A. T. B., mens. et del.

ELEVATION OF THE GIRALDA AT SEVILLE, FROM A SURVEY.

The solid lines are drawn from the same points as on the American example; the dotted lines suggest more definitely leading points from which such lines could as well be taken. See table of pitch of diagonals.

ferable to narrow, transomed openings; but even such a proposition as this we should require to check by overhauling a number of instances, as, in matters of art, exceptions are more important than rules. Ferrara Cathedral, for instance, possesses an admired façade, though it is here pilloried for its triple equal division.

The appearance of this book is another symptom of a revolt against the merely utilitarian basis of design in architecture, is evidence of the same instinct that best accounts for the modern American *furore* after École methods of design. Overdone with practical considerations, the architects seem willing to accept wholesale all the old classical conventions, and to find in such repetitions as the Chicago Fair buildings a complete artistic standard.

It is unlikely that this is a permanent mood, in that it runs contrary to the drift of modern thought, which prescribes adaptation to the circumstances of the case as the surest method of ultimate mastery. That there is a final law of beauty, co-ordinating the apparently irregular manifestations with which we have been endowed, is inherently probable, however little likely its complete elucidation may appear. It is quite certain, however, that its basis is infinitely wider than any merely mathematical system, while it is uncertain that, under our conditions, we need for our work anything beyond a due cultivation of our natural perceptions of beauty.

A. T. Bolton.

PRACTICAL BUILDING CONSTRUCTION.

Practical Building Construction: a Handbook for Students preparing for the Examinations of the Science and Art Department, the Royal Institute of British Architects, the Surveyors' Institution, &c. Designed also as a book of reference for persons engaged in building. By John Parnell Allen. 3rd Edition. 8o. Lond. 1900. Price 7s. 6d. [Messrs. Crosby Lockwood & Son, Stationers' Hall Court, E.C.]

The chief interest in the book described as *Practical Building Construction*, by J. P. Allen, third edition, revolves around the announcement on the title page that the work is a handbook for students preparing for certain examinations, among them that for the Royal Institute of British Architects. By this a claim is laid to a certain standard of usefulness; how much of the claim is justifiable remains to be shown.

Clearly a text-book for students should before all things be scientifically accurate in its facts and precise in its definitions. To what extent these essentials prevail may be gathered from the following extracts. In the first paragraph we read that

> "bricks, the chief material of the bricklayer, are hard rectangular blocks of an originally clayey substance which has been tempered and moulded into the shapes required, and then burnt in a clamp or kiln until it is quite hard."

This is scarcely precise enough for a student. Again—

> "Rubber bricks are of a soft, sandy nature, capable of being cut, carved, or rubbed into any shape or form."

So far correct; but note what follows:

> "They are made near Birmingham and Bracknell, and should be compact, of uniform colour, texture, and hardness, so that they cannot be scored with a knife even in the centre," &c.

It is not easy to reconcile these two descriptions.

Turning to Mouldings in Joinery we find them described as

> "a series of sinkings and projections of various forms, mostly parts of circles, ellipses, &c., worked on the edges of the wood to produce light and shade by shadows, and give it an ornamental and showy appearance."

This is not a very happy description of a moulding.

Dealing with water supply the author says, to reduce the risk of freezing to a minimum,

> "on entering the house a stop-tap should be placed below a bib-tap, so that all the water in the house can be drawn off after the stop-tap is closed; and from thence the pipe should be run on internal walls within wooden pipe casings to the cistern, the supply to boiler from thence being fixed in casings grooved to allow of the hot pipes going in the same casing, and yet not contagious [*sic*] to the cold supply, a more or less ornamental cover being screwed on to hide the pipes."

Without fuller details of the system indicated, the student would find difficulty in understanding the proposal. The idea of carrying hot and cold water pipes in one casing, shown in the book as in an enlarged electric wire casing, is barely practicable. To screw them up with an ornamental cover is an aggravation of the difficulty.

Under the head of staircase landings the student may read that in best work the boards of the landing are not nailed down, but are secured to the joists with hardwood buttons. The author's illustration of best work leaves something to be desired. In any position a button-blocked landing, as here shown, would be of no value.

Some inaccuracies in the descriptions of materials and workmanship may be detected. To speak of "copal varnish as a mixture of resin and oil or turpentine" ignores the existence of copal Plate glass, the student is told, has an advantage over "sheet," in that it is stronger and less affected by atmospheric influences, while it cannot be cut noiselessly with the diamond, which renders it an enemy of burglars. The facts are, thickness for thickness, "sheet," is stronger than plate. Polished plate in store is very easily affected by moisture, and polished plate also is more easily cut than sheet glass.

The illustrations in this book are of very uneven character; although many may be unexceptionable, some are misleading. For instance, the text states how the material should be disposed in cast-iron girder forms; the author's drawing of an ideal section, however, exactly embodies the defects that should be avoided. In one case a view of a timber stage and hoist is given which exhibits a most comical knowledge of the laws of perspective.

The chapter upon strains in structures is perhaps less open to exception than other parts of the book, although here the author has not quite grasped the needs of students, unless indeed he presupposes an intimate knowledge of applied mechanics on their part. The setting down of the varying formulæ for ascertaining the amount of strain set up in beams variously loaded, without explaining how the variations of formulæ are evolved, is not sufficient for a proper understanding of the science. Again, the involved system of lettering on the trusses and reciprocal diagrams, as given in the section on strains in roofs, is needlessly confusing. There is no better system than the one in which the same series of letters serves for both diagrams.

In these days of intense specialism it is perhaps difficult to produce a reliable handbook on all branches of practical building construction. The claim that this work is a handbook for students preparing for examination evidently assumes that a severe test has not to be met. In literary style the book is not strong, and in general accuracy not unimpeachable. A student preparing for the Institute Examinations would be well-advised to read works dealing exclusively with such specialised subjects as sanitation, strains in structures, &c. Too great a faith in the practical building construction set forth by Mr. J. P. Allen might lead to disappointment.

Sydney B. Beale.

THE TRIBUNAL OF APPEAL.

The Tribunal of Appeal under the London Building Act. Manual for Appellants, by Charles H. Love, Clerk of the Tribunal. 8o. Lond. 1900. Price 3s. 6d. [P. S. King & Son, Orchard House, Great Smith Street, S.W.]

The author of this useful little book in a prefatory note says that it is within his knowledge that applicants for consents under the Act who deem themselves aggrieved by the decisions given either by the Council or its District Surveyors, or by conditions imposed with a consent, sometimes abandon their application or accept the qualified consent as final, under the erroneous impression that an appeal to the Tribunal involves necessarily the employment of counsel and other legal aid, and consequent expense. This is not the case. The Statute (sec. 183) gives the Tribunal power to hear appeals either by the parties interested *in person* or by counsel, solicitor, or agent, as the appellant may think fit.

Without any desire to swamp the Tribunal with appeals one may suggest that it is well to bear this in mind. The Tribunal, as we all know, or ought to know, consists of three members, appointed respectively by a Secretary of State, our Institute, and the Surveyors' Institution, our representative, Mr. Arthur Cates, having been all through the Chairman, with Mr. J. W. Penfold, F.S.I., and Mr. A. A. Hudson, Barrister-at-Law, at present his colleagues.

No architect at any rate, therefore, need fear to state his case before two such surveyors and a specially qualified lawyer, whose works on building law and practice are so well known. The sections of the Building Act constituting the Tribunal are Nos. 175 to 186 inclusive, and Regulations as to Procedure and Fees made thereunder by the Tribunal are set forth fully in the book under review. These having, as required by the Act, received the approval of the Lord Chancellor, have of course the force of law, and must be studied carefully by appellants.

The book further sets out in tabular form the sections of the Act which make provision for an appeal to the Tribunal, giving the number of the section and sub-section, the scale of fees payable under the regulations (higher or lower), the subject-matter of the allowed appeal, and by whom the appeal may be made.

There are no statutory forms of notices, but the author both wisely and kindly gives on page 39 a suggested form of Notice of Appeal, which, coming as it no doubt will into general use, should help both him (the clerk) and the appellant. It is cheering to read that "in the ordinary course an appeal may be made, heard, and decided in less than three weeks, except in vacation times." What a joyous prospect this opens out when we get—as we surely shall—this Tribunal to settle rights of light! Why should they not, as well as lines of frontage and the necessary giving up of land, the widening of streets and determination of width required, space at rear of buildings, the tricky questions involved in treating corner sites or those which are very irregular, the question of allowing or refusing the erection of houses on low-lying land—all matters interfering with the existing rights of property owners?

On all questions of *fact* referred to them the Tribunal's decision is final; but on any question of *law* a case may be stated for the opinion of the High Court. And it is not without interest to know that a register is kept of appeals made, and that all documents, plans, and orders are filed and open to inspection on payment of a small fee (3*s.* 6*d.*). A list of the appeals heard and decided to date is given in a table showing the situation of the building or place, the date of order, what the decision was, and—a most valuable column—where a report of the case can be found, *e.g. Estates Gazette, Solicitors' Journal, Builder,* &c. &c.

This brief note on a superlatively handy little book, which all London architects and surveyors should have alongside their Building Act, may well close with the note that all communications and inquiries as to appeals should be made to the author, Mr. Charles H. Love, Clerk of the Tribunal, 13, Great George Street, Westminster, S.W., and that all appeals are heard at the Surveyors' Institution, in the same street.

C. H. Brodie.

Architects' Benevolent Society.

In accordance with the resolution passed at the Annual General Meeting of the Architects' Benevolent Society a circular letter of appeal was issued on the 14th inst. to members of the Institute, incorporating the statistics produced by Mr. Arthur Cates, with the object of showing how inadequately the Society is supported by the general body of members. The officers of the Society regret that so far the appeal has not met with the generous response that was anticipated, but it is hoped that further subscriptions will be received before the final result of the appeal is published. The letter was as follows :—

Architects' Benevolent Society: 14th June 1900.

Dear Sir,—At the Fiftieth Annual Meeting of the Architects' Benevolent Society it was decided that the following facts should be brought before the attention of the members of the Royal Institute of British Architects.

Fifty years of continuous exertion by successive treasurers and secretaries and repeated appeals by the Presidents of the Royal Institute have resulted in the accumulation, by donations and bequests, of a capital of £10,551 6*s*. 1*d*., the interest derived from which is available for the purposes of the Society.

Of this capital sum £5,835 17*s*. has been contributed by twenty-four benefactors, £1,000 of that amount having been the gift of two gentlemen not members of the profession.

The total number of subscribers is 285, who among them contribute an income of £476 9*s*. Of these annual subscribers (apart from four special contributors) there are 10 at £5 5*s*. each, 9 at £3 3*s*., and 262 at various sums from 5*s*. to £2 2*s*.

Of the 618 Fellows of the Royal Institute only 191 are donors or annual subscribers, or both. Of these 117 have contributed £1,867 10*s*. 6*d*. to the capital, while 138 are annual subscribers to the amount of £218 7*s*. 2*d*.

Of the 993 Associates only 54 have contributed to the funds of the Society; 37, as donors of from 2*s*. 6*d*. to £21, have given £137 11*s*. 6*d*. to the capital, while 38, as annual subscribers, contribute £42 4*s*. 6*d*.

We make no comment on these facts and figures beyond trusting that it may be only necessary to bring them before the Fellows and Associates of the Institute to secure for the Society a measure of support more commensurate with the number of members than is at present the case.

It was hoped that the jubilee of the Society might be celebrated this year by a public dinner, but the idea was abandoned owing to the many calls upon private means in consequence of the war in South Africa. Still, the occasion should not pass altogether unrecorded. The arts of peace have their victims, not less deserving of sympathetic aid than the arts of war; and it is to such as these, to the victims of poverty and old age, to the victims of destitution through ill-health, to the victims of death—the widows and orphans who have been left insufficiently or totally unprovided for—it is to these that this Society has been quietly and effectively ministering for the last fifty years.

We earnestly hope that you will show your appreciation of the work accomplished by the Society in the past by giving it your active and generous support now and in the future. For to whom shall members of our profession look when in distress if not to their more fortunate brethren?

We are, dear Sir, yours very truly,
William Emerson, *President*.
Percivall Currey, *Hon. Sec.*

Obituary.—The death is regretfully recorded of Mr. William Milford Teulon, of Leamington, who was elected an Associate in 1854, a Fellow in 1860, and was placed on the List of Retired Fellows in 1889.

MINUTES. XVI.

At the Sixteenth General Meeting (Ordinary) of the Session, held Monday, 18th June 1900, at 8.30 p.m., the President, Mr. Wm. Emerson, in the Chair, with 36 Fellows (including 14 members of the Council), 32 Associates (including 1 member of the Council), 4 Hon. Associates, and numerous visitors, the Minutes of the Meeting held 11th June 1900 [p. 404] were taken as read and signed as correct.

Professor Neckelmann, of Stuttgart [*Hon. Corr. M.*], was introduced by Mr. John Slater [*F.*], and formally admitted.

The following Fellows, attending for the first time since their election, were formally admitted and signed the Register—viz. Sydney Francis Bartleet, Frederick Batchelor (Dublin), William Carby Hall, President of the Leeds and Yorkshire Society; Charles King, President of the Devon and Exeter Society; Frank Walter Mee (Manchester), and James Diggle Mould (Manchester).

The President having delivered an Address on the Presentation of the Royal Gold Medal to Professor Rodolfo Lanciani, of Rome [*Hon. Corr. M.*], a telegram from the Professor tendering his thanks to the Institute was read, and the Medal was received on his behalf by Count Carobbio, one of the Secretaries to the Italian Embassy.

A series of photographs taken in Greece by the late Mr. Ernest George Spiers having been exhibited by means of the lantern, and described by Mr. F. C. Penrose, F.R.S., *Past President*, a vote of thanks was passed to Mr. Penrose by acclamation, and also to Mr. R. Phenè Spiers, F.S.A., for the loan of the lantern slides.

The proceedings then closed, and the Meeting separated at 10 p.m.

THE ANNUAL ELECTIONS.

Practice Standing Committee.

The name of Mr. Thomas Harris, with 243 votes, elected to serve on the Practice Committee for the ensuing Session, was omitted from the Report of the Scrutineers printed in the last number of the Journal.

USUI·CIVIUM·DECORI·URBIUM

THE QUALITY OF REPOSE IN ARCHITECTURE.

By J. D. Crace.

In all Art the ultimate charm—that which induces admiration, whether in active ecstasy or in the more passive calm of the senses which results from the contemplation of some noble forms of beauty—is, more often than not, extremely difficult to analyse. None of us can quite tell, of the impression made on him by any thing of beauty, how much is due to line or colour, acting directly on well-trained perception, how much to some secondary mental reminiscence, or bundle of reminiscences, which we call "association." In the latter class, for instance, we ought really to place all that delight in the skill of the producer, as evidenced by the trace of his fingers or tools, which is so large a component of the admiration of those who have themselves essayed the use of tools or fingers. A whole train of ideas leads from the object itself to what are often remote incidents or causes of its origin, and the remarkable thing is that the mind seems to leap at a bound from end to end of this long train of ideas. This instantaneous mental action is the result really of experience—conscious or unconscious training; and the ordinarily observant man has frequently gone through much unconscious experience which enables his mind to arrive at the end of a chain of ideas without having to study them link by link. Such a man, therefore, when confronted with a work of art, is open to receive "an impression"—that is to say, his mind receives instantaneously some sensation—pleasurable or otherwise—before it has had time to deal with arguments. On the other hand the unobservant and untrained man receives no such distinct impression of the whole, but flounders mentally among the parts. If he expresses an opinion it is, as likely as not, founded on the merit or demerit of some really secondary detail.

Now I have dealt particularly with this tendency of the mind to make use of its previous experience to skip argument and receive a definite, instantaneous impression, because that special quality in Art with which I set out to deal is, more perhaps than any other quality, a matter of instantaneous impression. You may find many valuable qualities in a work of art after search or detailed inspection; but the quality of "Repose" is that quality which, if it be there at all, is there at the first glance. It may more and more impress you after acquaintance, but you will not discover it by searching for it.

What then is "Repose" in Art? That it is a quality of great value in Painting will not be disputed, nor that it is of still greater value in Sculpture; but when we come to Architecture may we not say that it is the indispensable quality, and that nothing can altogether atone for its absence in any building that would claim nobility?

As to what constitutes "Repose" in painting and sculpture we must be satisfied here to say very little. It involves the instantaneous perception of a well-balanced harmony, of the absence of distracting lines or colours; and needs, in the case of sculpture, a well-adjusted centre of gravity. Above all it involves such a breadth of treatment as to leave the mind in no doubt as to its centre of interest.

This brings us a step further. It is the absence of anything which may cause, even for one instant, mental bewilderment which is necessary to the quality of "Repose" in art. Conversely "Repose" is the result of broad and simple exposition of the leading motive.

So now we return to Architecture, and let us apply to this our particular art the two conditions which, if I am right, we may accept as essential to the quality of Repose. Combining them they may be expressed thus: "the leading motive so clearly and simply expressed as to be recognised at a glance."

Now in Architecture what is and must be the first consideration, the leading motive? There can be no doubt about the reply. It must be "*Stability*." There may, and should be, various other motives to be duly expressed in a building, but nothing can precede stability. Therefore the clear and undisturbed expression of stability is the first and great essential to the quality of Repose. I have used the words "*clear and undisturbed*" and "*simple*;" but I desire not to have these words misinterpreted. By "clear" I do not mean bald, nor by "simple" do I mean void of detail. It is the *expression* which is to be simple, not necessarily the building or its parts. Simplicity of expression is consistent with inexhaustible detail. It is only necessary that the detail be not used contrary to the expression. It may often be used so as materially to assist expression, as most architects well know. But at this point it may not be amiss to illustrate the argument by example.

To begin with a general example. Perhaps no interiors offer such frequent instances of the quality of Repose as the vaulted naves of our cathedrals. A comparison of their varying amount of light does away with the notion that the effect of repose is due to subdued light. The true source of this quality is to be found in the clear and undisturbed expression of structural stability suggested by the continuity of moulded line in the shafts and vaulting. The very spontaneity, as it seems, of the upward growth and spread occupies the mind before all else. The stimulus to further examination of the parts is interest, not doubt. The same result occurs, externally, with many of the great church towers. Take the great tower at Malines, with its vast and complicated system of buttresses. The great, simple, dark lines which these afford by their shadows convey the idea of stability to the mind long before it has had time to give a thought to the detail.

The extremely simple constructive forms of the Greek temple result in "Repose" not because there is no detail, but because the detail is so completely subordinate to the simple lines and broad shadows of the columns and entablature. In fact, to have "Repose" we must have strength expressed. Whether this be attained by an effect of form and well-sustained upward growth, where the structure tends to altitude, or by that of bonded strength horizontally, or by a combination of the two, the idea of strength is indispensable to the impression of stability.

The famous Strozzi Palace is a splendid example of the Repose obtained by the suggestion of the "vis inertiæ" in building; but it may be regarded as a somewhat extreme example, since it is as much fortress as palace. Of buildings which possess the quality of Repose without the assertion of more strength than is demanded for stability few excel Vulliamy's admirable Dorchester House, in Park Lane. If this be studied as a whole it will, I think, be found one of the most dignified and artistic residential buildings ever erected, in this country at any rate. Its angle to the roadways, its firm base, the excellent proportion of its spaces, the reserve maintained throughout, and, lastly, the skill with which its accessory outbuildings are arranged, both in scale and position, constitute it a masterpiece of unaffected and dignified architecture.

But there is no need to multiply examples; the features common to all of them are that the lines or masses which express structural strength are clearly and simply defined; that these are in such proportion to each other that the mind comprehends them, as a whole, at the first glance; and that the details and enrichments, though they abound, must be so dealt with as never for an instant to distract that first glance from the explanatory lines of structure.

It is the establishment of cross interests—rival attractions, if one may so put it—that steals away the mental calm of the spectator. There may be a thousand *additional* charms awaiting inspection, but there must be no rival in the first impression. If a building is to have dignity, if it is to possess any lasting charm, it must have that quality of simplicity of expression which can convey instantaneously to the mind of observant man a sense of its strength, a perception that its inert matter has been wrought into a condition of stability. If that message is conveyed without deviation or interruption the building possesses one noble quality—the quality of Repose.

THE UNIVERSITY OF LONDON AND ARCHITECTURAL EDUCATION.

By ARTHUR CATES [*F.*]

AFTER many years of strife and conflict, between contending parties holding different views of the scope and duties of the proposed Teaching University for London, a Royal Commission was, on 30th April 1892, appointed " to consider the draft charter for the proposed Gresham University in London." This, from the Chairman having been Earl Cowper, is known as " the Cowper Commission."

The Commission completed its labours within two years, and its report is dated 24th January 1894. It held 68 sittings for taking evidence from 149 witnesses in reply to 25,594 questions, which evidence is printed in a massive volume of 1,227 double-column pages folio, with an appendix of 136 pages of relative documents put in by witnesses.

At the thirty-third Sitting, 11th November 1892, Professor T. Roger Smith gave evidence as Professor of Architecture and Construction at University College; this, which will be found in the Minutes of Evidence, pp. 625–9, questions 14824–14980, related to his classes at the College, and his advocacy of a Faculty of Applied Science, in which architects might graduate.

During the sitting of the Commission the Council of the Institute thought it desirable that the claims of Architecture to be recognised as a faculty or otherwise in the new Teaching University should be submitted to the Commission, and on 17th February 1893 four members delegated by the Council—viz. Mr. J. Macvicar Anderson, President; Mr. William Emerson, Hon. Sec.; Messrs. Arthur Cates and John Slater, Members of Council—attended before the Commission and gave evidence, which will be found in pp. 1024–41 of the Minutes of Evidence, questions 22449–22763, and in the Appendix, Nos. 46–50, pp. 87–95, are documents put in by Mr. Cates.

So far as it relates to the interests of Architecture the Report of the Commission may be summarised as follows:—

The result of the enquiry was to enlarge the scope of the University in respect both of the subject-matter and the method of its teaching.

It was proposed to include six Faculties: Arts,* Science, Medicine, Law, Theology, and Music.

It was further proposed that Applied Sciences should be included in the subjects of teaching and graduation in the Faculty of Science; that the Faculty should comprise two departments for "Pure" and "Applied Science" respectively; that special Boards of Study should be constituted to deal with the various branches of each, and that among the branches of Applied Science there should be reckoned Science as applied to Engineering, Architecture, Agriculture, and other subjects of technology.

It was also proposed to include in the Senate or governing body of the University representatives of the four important bodies who were most directly interested in practical dealing with the subjects; thus in the sixty-six members of the Senate a representative of the Royal Institute of British Architects was included.

With respect to the Fine Arts the evidence did not appear to give sufficient warrant for constituting a faculty in that subject. In its historical and archæological aspect "Fine Art" might fairly come under the cognisance of a University, but in this relation it becomes a branch of the literary side of the University, and it was anticipated that one or more Boards of studies would be formed to deal with this part of the subject of art.

It was admitted that knowledge of scientific and æsthetic laws was useful to the artist, but the evidence insisted upon the predominant importance of execution, mastery, and of spontaneous imaginative power, and appeared adverse to any attempt to assign to "Art," considered for and in itself, a distinct position in the University.

The Commissioners anticipated that those institutions which represent the professions of engineering and architecture would be materially aided in their efforts for the promotion and improvement of professional education by the establishment of a department of "Applied Science" in the Faculty of Science; for this would afford to those who are preparing for their profession an education in which the fundamental principles of science would be taught by methods illustrating their bearing upon the theoretical and practical problems, familiarity with which is essential to a professional training.

Finally the Commissioners recommended that a Statutory Commission should be appointed, in order to frame, in accordance with the recommendations they submitted, the Statutes of the new University.

Greatly as was to be regretted the separation of the "art" from the "science" of architecture, these recommendations placed the Institute and Architecture in a much more favourable position before the public and in relation to education than either had previously occupied. But these anticipations of an assured position for the Institute on the Senate of the University were rudely dispelled when the details of the London University Commission Bill became known.

In the years succeeding the Report of the Cowper Commission, Bills to give effect to its recommendations were introduced by the Government in the House of Lords, but were dropped in the Lower House, and amended to remove a very large part of the formidable opposition which they drew forth; the amended Bill was again brought forward in 1897, passed the Lords, but was dropped in the Commons. Among other changes the schedule to the Bill reduced the members of the Senate to fifty-six, the representative of the Institute being among those eliminated.

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* This Faculty of Arts has not any relation to Art, or to the Fine Arts, but solely to what in University language are designated the Liberal Arts, as the old mediæval *trivium*—grammar, logic, and rhetoric—and the *quadrivium*—arithmetic, geometry, music, and astronomy—and other branches of learning which are of the nature of intellectual instruments for advanced studies.

The object of the Bill was to appoint a Statutory Commission to make statutes and regulations for the University of London, in general accordance with the scheme of the Report of the Cowper Commission, but subject to the modifications specified or indicated in Part 1 of the Schedule, and to any other modifications which might appear expedient after consideration of changes which may have taken place since the date of the Report, *and to any representation made to them by or on behalf of any body or person affected.*

This Bill was not proceeded with in the Lower House. On 24th January 1898 a deputation representing the Senate of the University of London, the various teaching bodies in London, and the learned professions, waited on the Duke of Devonshire as Lord President of the Council, to urge on the Government, that the London University Commission Bill should be reintroduced at an early period of the coming session of Parliament. On this deputation the Institute was represented, but its delegates had no opportunity of taking an active part in the proceedings.

The Bill having accordingly been reintroduced and carried through both Houses, received the Royal Assent 12th August 1898, and became known as "The University of London Act, 1898." The Statutory Commission appointed by the Act at once commenced its labours, but although the Commission invited and received representations from various bodies and persons interested in the proposed Statutes it does not appear that any communication was invited from the Institute.

At the Annual Meeting of the Institute held 1st May 1899 * the attention of the Council was invited to this subject, and enquiry was made as to the steps which had been taken with respect to the representation of the Institute before the Commission, and the position which Architecture should hold in the Teaching University, but no satisfactory reply was given.

At the Annual Meeting held 7th May 1900 † the question was repeated, but with no more satisfactory result—the official reply being apparently given in ignorance of the facts—since the Statutory Commission, having completed the task assigned to it, had on 27th February 1900 made its report, and had presented to Parliament the Statutes and the Regulations made by it for the University of London under the Act of 1898.

In the "Statutes" there is not any reference to the Institute, or to Architecture; in fact, that word does not appear in the eighteen pages on which the Statutes are set out; but Music is represented on the Senate by two representatives, one elected by the registered graduates in Music, and one appointed by the Members of the Faculty of Music; while Engineering has one representative, appointed by the Members of the Faculty of Engineering.

The eight faculties of the University established are Theology; Arts; Laws; Music; Medicine; Science; Engineering; Economics and Political Science.

The first schools of the University are defined, amongst them being, in all the faculties in which they respectively afford instruction, University College, London, and King's College, London.

The Statutes also provide that such boards of studies shall be constituted for the subjects of University study as may be from time to time prescribed. The Statutes are provisions of a permanent character, and can only be modified by the Senate with the authority of Parliament.

The "Regulations" are provisions for carrying the "Statutes" into effect, and are open to repeal or alteration by the Senate. The regulations establish thirty-two "boards of studies," among them a board of Fine Art for all the Fine Arts exclusive of Music but inclusive of Architecture. They also nominate the members of the teaching staffs of public educational institutions who shall be recognised as teachers of the University for the several subjects specified; these include:—

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* JOURNAL, Vol. VI., Third Series, No. 12, 6th May 1899, p. 380.

† *Ibid.* Vol. VII., Third Series, No. 13, 12th May 1900, pp. 343 and 346.

At University College, London: Smith, Thomas Roger, F.R.I.B.A., *Architecture and Construction.* At King's College, London: Smith, Ravenscroft Elsey, A.R.I.B.A., *Architecture and Construction.* And Smith, Thomas Roger, is appointed a member of the Faculty of Engineering.

Thus the obligation of watching over and promoting the interests of architectural education in the University of London devolves entirely and solely, in both art and science, on Professor Thomas Roger Smith and his son, Professor Ravenscroft Elsey Smith, to whom the profession must look for the organisation of that complete course of systematic university education, the establishment of which is the first essential towards the due development of architecture, in its true position as a PROFESSION AND AN ART.

Whatever the shortcomings and neglect of the Institute may have been in not carefully following up the success gained in 1893, and in failing to make a more vigorous effort to maintain that position, there is now ample opportunity for it to aid and support the two Professors (father and son), who will influence and guide the Board of Studies in the interest of that Profession which they have so dearly at heart; and with the excellent example of what has been accomplished in the United States of America,* their energy and experience, supported by the advice and encouragement of the Institute Council, should produce a satisfactory result.

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* *Vide* "Architectural Education in the United States of America," *supra*, pp. 394–7

9, Conduit Street, London, W., 28*th July* 1900.

CHRONICLE.

HOLBORN TO STRAND IMPROVEMENT.

Correspondence between the Institute Council and the London County Council.

The following correspondence has taken place during the session between the Council of the Institute and the London County Council:—

[*From the Superintending Architect L.C.C. to The Secretary R.I.B.A.*]

16*th February* 1900.

Sir,—In continuation of the interview which the Council of the R.I.B.A. were good enough to accord me on the subject of the designs for the elevations of the Holborn to Strand Improvement, it has been decided by the particular Committee dealing with the question to recommend the carrying out in a general way of the scheme which was then outlined.

It has been suggested that a special condition should be inserted, that the architects should make Somerset House the key of their designs, but, as it is thought to be undesirable to control too strictly the invention of those who may be called upon to design the elevations for this great improvement, I have recommended that the style to be adopted should be Palladian freely treated.

Will you be good enough to obtain the opinion of the Council of the R.I.B.A. on this question at their next meeting and communicate the result to me? I venture to press for an answer by Tuesday morning, as the matter is of great urgency.—I am, Sir, your obedient servant,

W. E. Riley,
Superintending Architect.

The interview referred to took place at the Council Dinner Club, when Mr. Riley's proposals that four Architects should be chosen by the L.C.C. and four by the Council of the Institute to design façades for the Strand end of the new street were laid informally before the members of Council who were present.

[*From The Secretary R.I.B.A. to the Superintending Architect L.C.C.*]

20*th Feb.* 1900.

Dear Sir,—I am directed by my Council to thank you for your letter of the 16th inst. and to reply to it as follows:—

The Council are desirous to emphasise the importance of the treatment of the Circus as a homogeneous architectural design, but they are of opinion that it would not on the whole be advisable to direct architects to adopt "the Palladian style freely treated," and that a better result would be obtained by leaving it to the judgment of the architects who may submit designs, provided that a proper artistic control be secured both as to design and material.

The Council of the Royal Institute will be happy to assist the London County Council in securing a proper architectural treatment for this important scheme.—I am, dear Sir, yours faithfully,

W. J. Locke, *Secretary.*

[*From the Clerk of the London County Council to The Secretary R.I.B.A.*]

5*th March* 1900.

Sir,—Mr. Shaw-Lefevre, the Chairman of the Improvements Committee, desires me to let you have for the information of the Royal Institute of British Architects the inclosed copy of reports, which will be under the consideration of this Council at its meeting to-morrow, on the subject of the architectural features of the new buildings to be erected in connection with the Holborn to the Strand improvement. You will observe that the first report of the Improvements Committee commences on p. 5, and contains the conditions upon which the eight architects are to be invited to send in designs. These conditions, however, are slightly modified by the further report which appears on p. 30. I understand that your Council will meet this evening to consider the subject, and if your Council desire to make any observations thereon it will be well for your communication to reach me to-morrow morning, as the matter will be before the Council here during the afternoon.—I am, Sir, your obedient servant,

C. J. Stewart, *Clerk of the Council.*

The following were the conditions referred to as being on p. 5 of the Report:—

i. In order to take some measures to ensure harmony of design in the architectural treatment of the buildings to be placed upon the frontages of the new streets in the Holborn to Strand improvement the London County Council has resolved to invite eight architects (four to be nominated by the Council of the Royal Institute of British Architects and four by the London County Council) to submit designs for the elevations only, in order to obtain the best professional views of the artistic treatment of this great improvement.

ii. The elevations should be accompanied by the necessary explanatory block plans of the frontages proposed to be treated in connection with the improvement, fronting on the Strand and on the curved street proposed to be formed between Wellington Street and Clement's Inn.

iii. The Council will pay a sum of 150*l*. to each architect who submits a design in conformity with the accompanying instructions.

iv. On payment of the above-named amount, each design is to become the absolute property of the Council, who shall be at liberty to make such use of the designs as it may see fit in connection with the object detailed in the first paragraph.

v. The Council will not be under the obligation to employ, or secure the employment of, any of the selected architects to carry out their designs, or in any other capacity, or to make any further payment beyond the amount before stated with regard to the designs: the before stated payment is to be considered final.

vi. The land upon which it is proposed to build is indicated by the red lines on the block plan of a portion of the proposed improvement to a scale of 88 feet to one inch, showing the general arrangement and the sites allocated for re-instatement of premises to be demolished. This arrangement may be varied as regards frontage, but no portion of the buildings must project beyond the black lines.

vii. The designs are to be in black lines only, without colour, with the exception of a light tint of Indian ink on the doors and windows.

viii. The drawings are to be in geometrical projection, but one bird's-eye view taken from an imaginary point to the south-west of the site may be submitted by each architect.

ix. The drawings submitted must include—

(*a*) An outline elevation, to a scale of 16 feet to one inch, of the frontage next the Strand, the triangular plot next Wellington Street, and of the two sides of the curved street between Wellington Street and Clement's Inn.

(*b*) Elevations to a scale of 8 feet to an inch of the half of the Strand frontage from the end next Wellington Street.

(*c*) Elevations to a scale of 8 feet to an inch of the east and west sides of the triangular plot next Wellington Street.

(*d*) Elevations to a scale of 8 feet to an inch of the north side of the curved street to the westward of the proposed main street leading to Holborn, showing the arrangements of the salient angle.

(*e*) Sections to a scale of 8 feet to an inch through the front walls of the several buildings showing the arrangement of the roofs.

(*f*) Details to a scale of 4 feet to an inch of special features may be furnished if necessary.

x. The buildings may be 80 feet high from the level of the pavement to the top of the principal cornice, attic, balustrade or blocking, with not more than two stories in the roof.

xi. The difference in level on the various façades may be dealt with by either ramped features or by taking advantage of the breaks which will occur where streets are intended.

xii. The ground floor may be 18 feet high, the other floors not less than 10 feet from floor to floor, with the exception of the rooms in the roof, which are to be 9 feet high.

xiii. The pavement in front of the Strand frontage may be taken to be practically level; the gradient of the curved street will be 1 in 55 from the Charing Cross or western end, and 1 in 50 from the eastern end.

xiv. It may be desirable to treat the centre block of the crescent-shaped island as devoted to one building, the streets at the flanks of it being approached by arcaded footways with steps up towards the curved street on the north side, and by a carriage road from the end leaving the Strand.

xv. The materials to be employed in the elevations to be stone, marble or granite. No other materials will be admissible.

xvi. The style suggested is Palladian freely treated and of a simple character, it being borne in mind that the buildings may be intended for commercial purposes.

xvii. The designs should be drawn on sheets of double elephant paper, 3 ft. 4 in. by 2 ft. 3 in., connected if required to increase the length, and mounted on strainers, with margins 3 in. wide.

xviii. The designs, which will be publicly exhibited, are to be sent in, addressed to the Architect to the Council, within six weeks of the date of nomination by the Institute and the Council respectively.

The following were the modifications of the above conditions referred to as being on p. 30 of the Report:—

(*a*) The architects in preparing their designs shall have regard to the possibility of the central portion of the site lying between the new crescent road and the Strand being used for the erection of a public building.

(*b*) The style suggested is Palladian, freely treated and of a simple character, or Renaissance of English character.

[*From The Secretary R.I.B.A. to the Clerk of the London County Council.*]

6th March 1900.

Sir,—With reference to your letter of yesterday's date, I am instructed by my Council to assure you of their cordial appreciation of the desire expressed by the Improvements Committee for the co-operation of the Royal Institute of British Architects in matters connected with the architecture of the new street, and to express their very great willingness to put their services at the disposal of the London County Council.

My Council, however, having received at their meeting yesterday the particulars of the proposed invitation to architects, and having been requested to reply in time for to-day's meeting of the London County Council, regret that so little time has been given them, as it was impossible to consider the conditions in an adequate manner, especially as this was the first occasion on which the proposals were formally laid before them. But I am to inform you at once that there are several conditions to which my Council could not lend their approval.

My Council would be most happy to appoint a small committee to confer with the Improvements Committee and go into the whole matter with that care which such a very important question deserves.—I am, Sir, your obedient Servant,

W. J. Locke, *Secretary.*

[*From the Clerk of the London County Council to The Secretary R.I.B.A.*]

8th March 1900.

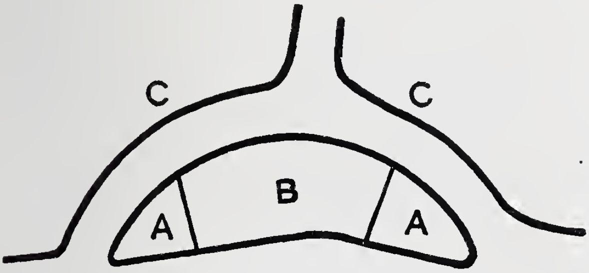
Sir,—I have laid before the Improvements Committee your letter of the 6th instant on the subject of the elevations of the buildings proposed to be erected in connection with the Holborn to the Strand street.

With reference thereto I have to inform you that the Committee will be happy to receive the Committee of the Royal Institute of British Architects at this office on Wednesday next, the 14th instant, at such time between the hours of 3 and 5 p.m. as may meet the convenience of your Committee. Perhaps you will be so good as to let me know not later than Saturday morning the exact time which your Committee may select, so that I may make the necessary arrangements.—I am, Sir, your obedient Servant,

C. J. Stewart, *Clerk of the Council.*

A Committee of the Institute Council, consisting of the President, the Vice-Presidents, the Hon. Secretary, Mr. T. E. Collcutt, Mr. W. D. Caröe, and attended by the Secretary, met the Improvements Committee of the London County Council and submitted to them the following alternative scheme:—

1. Eight architects shall be invited to send in designs, four of whom shall be nominated by the London County Council and four by the Royal Institute of British Architects.
2. Each architect sending in a design shall receive an honorarium of £150.
3. Not more than three designs out of the eight shall be selected for execution.
4. The site shall be treated as so many building-blocks, A, B, C (as shown on sketch plan).



5. The designs of the successful architects shall be executed by them under the following conditions:—
   - (*a*) The architects to provide all working drawings, details, and specifications.
   - (*b*) Their remuneration to be at the rate of 100 guineas per 25 ft. of frontage.
6. The adjudication shall rest with a joint committee of three, who shall be appointed, one by the London County Council, one by the Royal Academy, and one by the Royal Institute of British Architects.
7. A period of at least three months shall be allowed the architects for the preparation of their designs.
8. A joint committee of the London County Council and the Royal Institute of British Architects shall be appointed to elaborate the above points and draw up the instructions to the invited architects.

[*From the Clerk of the London County Council to The Secretary R.I.B.A.*]

30*th March* 1900.

Dear Sir,—Referring to previous correspondence on the subject of the elevations of the buildings proposed to be erected in connection with the Holborn to the Strand street, I have to inform you that the Improvements Committee have given the fullest consideration to the suggestions made by the Royal Institute of British Architects, and particularly to those of the deputation which attended the Committee on the 14th instant. These suggestions may perhaps be classed under three heads as follows:—

1. That the Council should undertake to secure the employment of the particular architect whose design may be selected for the elevation of the buildings.
2. That the adjudication should rest with a joint committee of three members, one to be appointed by the County Council, one by the Royal Academy, and one by the Royal Institute of British Architects.
3. That certain amendments should be made in the form of invitation to the architects by the omission of certain detailed drawings.

With regard to the first point, the Committee, after a full review of all the facts, regret that they do not see their way to accede to the suggestion made by the Royal Institute.

With regard to the second point, the Committee have decided to recommend the Council to put it on record that it is the intention of the Council, before making use of any of the designs sent in, to seek expert advice thereon.

Upon the third point I may state that the Committee have agreed to make certain modifications in the conditions in regard to detailed drawings. Moreover, they have decided to advise the Council to pay a sum of £250 to each architect who submits a design in conformity with the instructions, instead of the sum of £150, as originally proposed.

From what has been said it will no doubt be apparent to the Royal Institute that the Committee have considerably modified their original conditions, with a view to meeting, as far as possible, the suggestions made by the Institute.

The Committee's report will be submitted to the Council on Tuesday, 10th April next, the last meeting before the Easter recess.

I enclose a proof of the report, and the Committee will be glad to learn that the report, as now modified, has the approval of the Royal Institute.

As the Committee are anxious to obtain the decision of the Council before the Easter recess it is desirable that any observations which the Royal Institute desire to make upon the enclosed report should reach me not later than noon on Wednesday next, the 4th of April. May I ask you to treat the enclosed report as a confidential document until it is presented to the Council on 10th April?—I am, dear Sir, yours faithfully,

C. J. STEWART, *Clerk of the Council.*

[*From The Secretary R.I.B.A. to the Clerk of the London County Council.*]

3rd April 1900.

DEAR SIR,—With reference to your letter of 30th March and the enclosed draft report of the Improvements Committee, I am directed by my Council to say that the Royal Institute of British Architects is in entire sympathy with the London County Council in their desire to obtain a great municipal improvement, but that in order to secure harmony of design and good architectural character they feel it to be essential to the success of the scheme that each of the intending tenants be required to go for the elevations of their new buildings to one of the finally elected architects, and they would further suggest that these architects might form a committee of advice for collaboration in the whole of the architectural scheme.—I am, dear Sir, yours faithfully,

W. J. LOCKE, *Secretary.*

[*From the Clerk of the London County Council to The Secretary R.I.B.A.*]

5th April 1900.

DEAR SIR,—Referring to your letter of the 3rd instant, the Improvements Committee desire me to express their best thanks for the suggestions made by the Royal Institute of British Architects on the subject of the architectural features of the buildings proposed to be erected in connection with the Holborn to the Strand improvement; and to state that the Committee's report will be taken up to the Council on Tuesday next.

I am, dear Sir, yours faithfully,

C. J. STEWART, *Clerk of the Council.*

19th April 1900.

DEAR SIR,—Referring to previous correspondence on the subject of the elevations of the buildings proposed to be erected in connection with the Holborn to the Strand improvement, I have to inform you that the Council has resolved to obtain from eight architects designs for the elevations of the buildings to front on the Strand and on the crescent road to be formed between Wellington Street and Clement's Inn. The Council is anxious to secure the co-operation of the Royal Institute of British Architects in such an important architectural question, and the Council desires therefore to invite the Royal Institute to nominate four of the eight architects. The Council hopes to be in a position to nominate the remaining four in the course of a fortnight or so, and I shall be glad, therefore, if you can conveniently let me know within about the next fortnight the names selected by the Institute.

When the Council arrived at this decision the views of the Royal Institute as expressed in your several communications, and as stated by the deputation which attended before the Improvements Committee, were fully placed before the Council, with the result that after full consideration the Council has fixed the conditions upon which the designs are to be invited. These conditions are set out in detail in the paper sent herewith. I also enclose for the information of the Institute the report taken up to the Council by the Improvements Committee upon the subject.—I am, dear Sir, yours faithfully,

C. J. STEWART, *Clerk of the Council.*

The following is the Report referred to:—

REPORT OF THE IMPROVEMENTS COMMITTEE.

4th April 1900.

Holborn to the Strand Street—Architectural Features—Capital Vote, £2,000.

We submitted to the Council on 20th February 1900 a report dealing with the architectural features of the new buildings to be erected in connection with the Holborn to Strand improvement. In consequence, however, of the receipt of a letter from the Royal Institute of British Architects asking us to receive a deputation upon the subject, our chairman by leave of the Council withdrew the report on 13th March. Since then we have received the deputation from the Royal Institute and have reviewed the whole question, with the result that we are now fully prepared to advise the Council in the matter. In our former report we called attention to the fact that we are proceeding with the acquisition of the property needed for the construction of the new street from Holborn to the Strand, authorised by the London County Council (Improvements) Act, 1899, and that it becomes necessary for consideration to be given to the important question of the architectural features connected with the improvement. The scheme consists in the formation of a new street 100 feet wide from High Holborn at Little Queen Street, opposite Southampton Row, proceeding in a southerly direction intersecting Great Queen Street, Sardinia Street, Vere Street, and Stanhope Street. After intersecting the last-named street the thoroughfare bifurcates; the western branch, as wide as the main street, passes in a south-westerly direction, crossing Drury Lane and entering Catherine Street and the Strand close to Wellington Street, in order to form an approach to Waterloo Bridge. The eastern branch, also of the same width as the main street, passes from Stanhope Street through New Inn to the Strand at St. Clement Danes Church. The scheme also provides for the widening of the Strand between Wellington Street and St. Clement Danes Church.

The two branch streets form a crescent, and it will be seen that the land between this crescent and the Strand will form a most valuable building site. To obtain the full value of this land it is of the utmost importance that every regard should be had to the architectural features of the elevations of the buildings to front the new street, the crescent road, and the Strand.

The Act authorising the improvement makes provision for the reinstatement of the Gaiety Theatre, the Gaiety Restaurant, and Messrs. Short's premises at the western end of the site between the crescent and the Strand. The new buildings, which will be designed by one architect, already selected by the persons interested, will occupy an area of 25,100 square feet of land, having a frontage to the crescent and the Strand of about 438 feet, which is equal to more than one-fifth of the frontage of the whole site bounded by the crescent and the Strand. This complete site, bounded by the crescent road and the Strand, contains 174,570 square feet of land, *i.e.* about 4 acres. It will be divided into three plots; the central plot, which we will call plot A, will contain 125,270 square feet, or about 2 acres 3 roods 20 perches; the western plot (plot B) will contain 25,100 square feet, or 2 roods 12 perches; and the eastern plot (plot C) will contain 24,200 square feet, or 2 roods 8 perches. In order to afford light and air, and to more economically lay out the crescent island, the three plots will be divided north and south by two 50-feet ways The Strand entrances to these ways will be for carriage traffic, but the northern entrances for foot traffic only. The latter entrances will be approached by steps from the crescent road, in order to overcome the difference in level between the crescent and the Strand. We may here state that the Act also provides for the reinstatement of the *Morning Post* premises on the triangular site which will remain after the removal of the existing Gaiety Theatre and the formation of the crescent road, and further for the reinstatement of Carr's Restaurant, Nos. 264 and 265, Strand. The persons to be reinstated are pressing for the Council's decision in regard to the elevations of their new buildings, and it is therefore necessary for the Council to settle the matter at the earliest moment possible.

The length of frontage of the buildings which will front the northern side of the widened Strand will be 850 feet. The frontage of the southern side of the new crescent will be 1,080 feet; whilst the length of frontage on the northern side of the crescent from Wellington Street to St. Clement's Inn will be 1,220 feet. The length of frontage on the eastern side of the main street from the crescent to Holborn will be 1,430 feet, and on the western side 1,300 feet. The total length of frontage therefore of the new buildings, which will be erected in connection with the complete improvement, will be 5,880 feet, or nearly $1\frac{1}{10}$ mile.

From the facts already stated it will be evident that in connection with this improvement the architectural features are of far greater extent and importance than has yet been the case in any improvement previously undertaken, either by the Council or its predecessors, the Metropolitan Board of Works.

London has materially suffered in the past from the fact that the architectural features of new main thoroughfares have not been adequately controlled by the authority carrying out the improvement. It is true that in one case—that of Northumberland Avenue—the Metropolitan Board submitted the designs for the elevations of the new buildings to the consideration of the Council of the Royal Institute of British Architects; but too little regard has been had in the past to considerations of architectural effect. The result of this apathy is too sadly shown in the cases of Shaftesbury Avenue and Charing Cross Road. In our opinion every effort should be made to secure that the great thoroughfare from Holborn to the Strand should, in addition to utility, possess beauty and civic dignity, as some of the grand thoroughfares in certain Continental cities. Measures should accordingly be taken to insure harmony, though not perhaps identity of design, in the architectural treatment of the buildings to be placed upon the frontages of the new crescent, and on the northern side of the Strand, and perhaps in the main thoroughfare itself. If this be secured, the Council will obtain the highest possible amount for the land, and the ultimate net cost of the improvement will be reduced in accordance with the increased dignity which the new thoroughfare may possess.

After careful consideration we have decided to advise the Council to invite designs from selected architects for the elevations of the buildings to front the northern side of the Strand, and the northern and southern sides of the new crescent road, as far as the junction with the main street. We consider that eight architects should be invited; that the invitations should be carefully worded, so that the Council should not come under any obligation to select any particular design, or to employ any of the architects, and that the Council should have a perfect right to make what use it likes of the plans to be submitted. We have further decided to recommend that a premium should be paid to each architect for the designs. We at first thought that a premium of £150 would be sufficient, but it has been represented to us that in order to secure the best work obtainable that amount should be increased, and, after full deliberation, we have decided to advise the Council to pay £250 for each design. The total sum to be expended would, therefore, not exceed £2,000, and we have sent to the Finance Committee an estimate of that amount. We think, however, that the cost of the work may well be taken as covered by the estimates of £2,000,000 and £2,742,500 already approved by the Council, particularly as those estimates included more than £2,000 for contingencies. Moreover, the Council authorised us on the 1st August 1899 and the 23rd January 1900 to incur expenditure on capital account up to £4,742,500 for the purpose of the Holborn to Strand Improvement. We are advised by the solicitor that the Council has full power to spend money for the designs in question.

It has been suggested to us that the competition should be perfectly open, that no particular architect should be nominated, and that the number of designs should not be limited, a premium being paid merely for the best design. After full consideration, however, we are strongly of opinion that it will be much better for the Council to invite designs from eight selected architects, and by so doing secure the work of the leading professional men, who, without doubt, would not send in designs if it were an open competition.

As a result of careful deliberation, and after consultation with the Council's officials and with the deputation from the Council of the Royal Institute of British Architects, we have drawn up the following conditions proposed to be attached to the invitation to the eight architects in question:—

Proposed form of invitation—

LONDON COUNTY COUNCIL.

London County Council (Improvements) Act, 1899, 62 *and* 63 *Vict., cap.* 266.

Proposed New Street from Holborn to the Strand.

i. In order to take some measures to ensure harmony of design in the architectural treatment of the buildings to be placed upon the frontages of the new streets in the Holborn to Strand improvement the London County Council has resolved to invite eight architects to submit designs for the elevations only, in order to obtain the best professional views of the artistic treatment of this great improvement.

ii. The elevations should be accompanied by the necessary explanatory block plans of the frontages proposed to be treated in connection with the improvement, fronting on the Strand and on the curved street proposed to be formed between Wellington Street and Clement's Inn.

iii. The Council will pay a sum of £250 to each architect who submits a design in conformity with the accompanying instructions.

iv. On payment of the above-named amount, each design is to become the absolute property of the Council, who shall be at liberty to make such use of the designs as it may see fit in connection with the object detailed in the first paragraph: but it is the intention of the Council, before making use of any such designs sent in, to seek expert advice thereon.

v. The Council will not be under the obligation to employ, or secure the employment of, any of the selected architects to carry out their designs, or in any other capacity, or to make any further payment beyond the amount before stated with regard to the designs: the before stated payment is to be considered final.

vi. The land upon which it is proposed to build is indicated by the red lines on the block plan of a portion of the proposed improvement to a scale of 88 feet to one inch, showing the general arrangement and the sites allocated for reinstatement of premises to be demolished. This arrangement may be varied as regards frontage, but no portion of the buildings must project beyond the black lines.

vii. The designs are to be in black lines only, without colour, with the exception of a light tint of Indian ink on the doors and windows.

viii. The drawings are to be in geometrical projection.

ix. The drawings submitted must include—

(*a*) An outline elevation, to a scale of 16 feet to one inch, of the frontage next the Strand, the triangular plot next Wellington Street, and of the two sides of the curved street between Wellington Street and Clement's Inn.

(*b*) Elevations to a scale of 8 feet to an inch of the half of the Strand frontage from the end next Wellington Street.

(*c*) Elevations to a scale of 8 feet to an inch of the east and west sides of the triangular plot next Wellington Street.

(*d*) Elevations to a scale of 8 feet to an inch of the north side of the curved street to the westward of the proposed main street leading to Holborn showing the arrangements of the salient angle.

(*e*) Sections to a scale of 8 feet to an inch through the front walls of the several buildings showing the arrangement of the roofs.

x. The buildings may be 80 feet high from the level of the pavement to the top of the principal cornice, attic, balustrade, or blocking, with not more than two stories in the roof.

xi. The difference in level on the various façades may be dealt with by either ramped features or by taking advantage of the breaks which will occur where streets are intended.

xii. The ground floor may be 18 feet high, the other floors not less than 10 feet from floor to floor, with the exception of the rooms in the roof, which are to be 9 feet high.

xiii. The pavement in front of the Strand frontage may be taken to be practically level; the gradient of the curved street will be 1 in 55 from the Charing Cross or western end, and 1 in 50 from the eastern end.

xiv. It may be desirable to treat the centre block of the crescent-shaped island as devoted to one building, the streets at the flanks of it being approached by arcaded footways with steps up towards the curved street on the north side, and by a carriage road from the end leaving the Strand.

xv. The materials to be employed in the elevations to be stone, marble, granite, or brick. No other materials will be admissible.

xvi. It should be borne in mind that the buildings to be erected in connection with the improvement may be intended for commercial purposes, but the architects in preparing their designs shall have regard to the possibility of the central portion of the site lying between the new crescent road and the Strand being used for the erection of a public building.

xvii. The designs should be drawn on sheets of double elephant paper, 3 ft. 4 in. by 2 ft. 3 in., connected if required to increase the length, and mounted on strainers, with margins 3 in. wide.

xviii. The designs, which will be publicly exhibited, are to be sent in addressed to the Architect to the Council within eight weeks of the date of nomination.

It will be observed that we have readily acceded to a request made to us by the Establishment Committee on the 21st February by inserting words in condition xvi. in regard to the possibility of the central portion of the crescent site being used for the erection of a public building.

We may mention that the deputation from the Royal Institute of British Architects who attended before us on the 14th March strongly urged us to adopt suggestions as follows:—

(*a*) Eight architects should be invited to send in designs, four of whom should be nominated by the London County Council and four by the Royal Institute of British Architects.

(*b*) Each architect sending in a design should receive an honorarium of £150.

(*c*) Not more than three designs out of the eight should be selected for execution.

(*d*) The site should be treated as so many building blocks, say A, B, and C.

(*e*) The designs of the successful architects should be executed by them under the following conditions:—(1) The architects to provide all working drawings, details, and specifications, and (2) Their remuneration to be at the rate of 100 guineas per 25 ft. of frontage.

(*f*) The adjudication should rest with a Joint Committee of three members, one to be appointed by the London County Council, one by the Royal Academy, and one by the Royal Institute of British Architects.

(*g*) A period of at least three months should be allowed the architects for the preparation of their designs.

(*h*) It should be suggested that a Joint Committee of the London County Council and the Royal Institute of British Architects should be appointed to elaborate the above points, and draw up the instructions to the invited architects.

During the conference the deputation suggested that the Council should withdraw the original condition to the effect that the Council should be under no obligation to employ a particular architect, and that the Council should agree to pay the architect whose design was selected one per cent. upon the cost of construction of the buildings. It was further suggested that in the form of invitation no reference should be made to any particular style of architecture, that it should be expressly stated to what definite purpose the central portion of the crescent site is to be devoted, and that a few amendments should be made in the conditions relating to details of plans.

All these suggestions have received our fullest consideration, with the result that we are unable to advise the Council to place itself under an obligation to secure the employment of a particular architect after the designs are sent in. It is not clear to us that the Council, even if it so desired, could accede to this request. We have, however, as already stated, decided to advise the Council to pay £250 for each design instead of £150, as originally proposed. Moreover, we would point out that the fact of being amongst the eight selected architects will represent a considerable advantage to each of the persons invited to send in a design, and that though we cannot advise the Council to give any undertaking in the matter there is little doubt that some, if not all, of the eight architects will be asked by the several lessees of the Council's land to prepare drawings for the elevations of their new buildings.

With regard to the suggestion of the Royal Institute that a Joint Committee of three members should adjudicate upon the designs, we must point out that in inviting designs we do not suggest a competition. It is possible that of the eight designs submitted no particular design will be selected for the whole improvement, but that several may be used. We think, however, that the Council may well be advised to undertake to seek expert advice before making use of any of the designs sent in, and we have accordingly added words to this effect to condition iv. in the proposed form of invitation.

We may add that we have readily adopted the suggestions made by the deputation in regard to amending the conditions relating to details of plans, and have also prolonged the time allowed to eight weeks.

We have used every effort to reconcile the views expressed by the deputation from the Royal Institute with the conclusions at which we originally arrived, and we feel that the modified conditions in the form of invitation which we now suggest, and as set out above, concede as much as can reasonably be expected from us, having regard to our natural desire not to prejudice the interests of the Council. We communicated to the Royal Institute the modified conditions which we now submit to the Council for adoption, and in doing so we expressed the hope that these conditions would have the approval of the Institute. In reply the Institute have informed us that they are "in entire sympathy with the London County Council in their desire to obtain a great municipal improvement, but that in order to secure harmony of design and good architectural character they feel it to be essential to the success of the scheme that each of the intending tenants be required to go for the elevations of their new buildings to one of the finally elected architects; and they would further suggest that these architects might form a committee of advice for collaboration in the whole of the architectural scheme." We have already pointed out that in all probability some, if not all, of the eight architects will be asked by the several lessees of the Council's land to prepare drawings for the elevations of their new buildings. We believe that we have rightly judged the wishes of the Council in using every effort to secure the cooperation of the Institute in such an important architectural question as that dealt with in this report, but at the present stage we cannot advise the Council to commit itself to do more than that suggested in the modified conditions which we now submit.

We think that it is unnecessary for us to emphasise the fact that, having regard to the magnitude and importance of the improvement in question, which, as already stated, involves a gross outlay of nearly five millions sterling, it is absolutely necessary to obtain the best professional views of the artistic treatment of the improvement, particularly as by so doing the Council will realise the greatest possible amount for its land. The recommendations which we have to submit are accordingly as follows:—

(*a*) That the estimate of £2,000 submitted by the Finance Committee be approved, and that, in connection with the Holborn to the Strand Improvement, eight architects be invited to submit designs for the elevations of the buildings proposed to be erected, fronting on the Strand and on the crescent road to be formed between Wellington Street and Clement's Inn.

(*b*) That the terms and conditions of the invitations be those set out in the foregoing report of the Improvements Committee, and numbered i. to xviii. inclusive.

(*c*) That the Royal Institute of British Architects be invited to nominate four of the eight architects in question.

(*d*) That the Council do authorise the Improvements Committee to take all the necessary steps to give effect to the foregoing recommendations.

[*From The Secretaries R.I.B.A. to the Clerk of the London County Council.*]

3rd May 1900.

Dear Sir,—In response to the invitation of the London County Council conveyed in your letter of the 19th inst., the Council of the Royal Institute of British Architects herewith nominate, in accordance with your request, the four following architects, placed in alphabetical order, to furnish designs for the elevations of buildings to front on the Strand and on the crescent road to be formed between Wellington Street and Clement's Inn:—

Mr. Reginald Blomfield, 1, New Court, Temple, E.C.

Mr. Thomas W. Collcutt, 36, Bloomsbury Square, W.C.

Mr. Ernest George, 18, Maddox Street, W.

Mr. R. Norman Shaw, R.A., 6, Ellerdale Road, Hampstead, N.W.

The Council of the Royal Institute, while expressing their most cordial appreciation of the desire manifested by the London County Council for their co-operation in a matter of such magnitude and importance, particularly wish to point out that the fact of their nominating four architects should be regarded not as signifying their approval of the conditions for the submission of designs adopted by the London County Council on the recommendation of the Improvements Committee for securing proper architectural treatment of the new scheme, but rather as a token of their often expressed and sincere desire to give to the London County Council whatever assistance lay in their power.

So far are the Council of the Institute from approving the conditions that they, with the expert knowledge of such matters which they may fairly claim, feel assured that such conditions would not ensure any beneficial result. In order to obtain architectural dignity and harmony of design for the new site they regard it as absolutely essential that the authors of the approved elevations should themselves carry out their designs, and that they should do so in collaboration with each other.

The Council of the Institute cannot but deprecate in the strongest terms conditions whereby the design of an architect may be handed over, either as a whole or in parts, to other architects to modify and execute, such modifications being liable to render it, from an artistic point of view, entirely valueless.—We are, dear Sir, yours faithfully,

Alexander Graham, *Hon. Secretary.*
W. J. Locke, *Secretary.*

[*From the Clerk of the London County Council to The Secretary R.I.B.A.*]

15th May 1900.

DEAR SIR,—The Chairman of the Improvements Committee desires me to let you have for the information of the Royal Institute of British Architects the enclosed copy of a letter received from Mr. Norman Shaw, stating that he is unable to accept the invitation to submit a design for the elevations of the buildings to be erected in connection with the Holborn to the Strand street. I may add that the Improvements Committee are in communication with several architects, and I will communicate with you further as soon as four architects have been definitely nominated by this Council.—I am, dear Sir, yours faithfully,

C. J. STEWART, *Clerk of the Council.*

[*From Mr. Norman Shaw to the Clerk of the London County Council.*]

6, *Ellerdale Road, Hampstead, N.W.: 12th May* 1900.

DEAR SIR,—I am in receipt of yours asking me to submit designs for the proposed new street, but I am sorry to say that I am not able to accept the invitation. I am no longer practising as an architect, having given up all active work some three years ago. It would have been very delightful had it all been otherways; but, as it is, it would be quite impossible for me to do adequate justice to the work.—I am, dear Sir, yours faithfully,

R. NORMAN SHAW.

[*From the Clerk of the London County Council to The Secretary R.I.B.A.*]

18th May 1900.

DEAR SIR,—I send herewith a copy of a letter from Mr. T. W. Collcutt declining the invitation to submit designs for the elevations of the buildings to be erected in connection with the Holborn to the Strand street. Mr. Ernest George has agreed to submit a design, and Mr. Blomfield has not yet given his decision. The Improvements Committee will be glad if the Royal Institute of British Architects will at their earliest convenience nominate two other architects to fill the places of Mr. Norman Shaw and Mr. Collcutt. I may add that the architects selected by this Council were Messrs. T. G. Jackson, Mervyn Macartney, E. W. Mountford, and E. Runtz. Of these Mr. Jackson declined the invitation and Mr. Leonard Stokes has agreed to fill his place. The time for sending in the designs will be not later than 1st September next.—I am, dear Sir, yours faithfully,

C. J. STEWART, *Clerk of the Council.*

[*From Mr. Collcutt to the Clerk of the London County Council.*]

36, *Bloomsbury Square, London, W.C.: 15th May* 1900.

SIR,—I am obliged by your letter of May 11th 1900, informing me that through the Royal Institute of British Architects I have been nominated one of eight architects to be invited to supply designs for the elevations of the proposed new streets leading to the Strand, and I have to thank your Council for accepting my nomination. But, as I cannot agree to the terms of condition V., I regret exceedingly I must decline the invitation, unless that condition can be modified.—Yours faithfully, (Sgd.) THOS. E. COLLCUTT.

[*From the Secretaries R.I.B.A. to the Clerk of the London County Council.*]

5th June 1900.

DEAR SIR,—In reply to your letter of the 18th May the Council of the Royal Institute of British Architects have considered your request that they should nominate two other architects in the place of those who have declined to submit designs for the Holborn to Strand Improvement Scheme.

The Council were, as we mentioned in our letter of the 3rd of May, most anxious to meet your wishes, and, although they had the greatest objections to the conditions as issued, they nominated four gentlemen, at the same time entering a strong protest, hoping the London County Council would see their way to amend the conditions. This, however, has not been done: therefore, while the conditions are not amended in accordance with the terms of the protest, the Council regret they are unable to make further nominations.—We are, dear Sir, yours faithfully,

ALEX. GRAHAM, *Hon. Secretary.*
W. J. LOCKE, *Secretary.*

[*From the Clerk of the London County Council to The Secretary R.I.B.A.*]

22nd June 1900.

DEAR SIR,—I have laid before the Improvements Committee the letter of the 5th instant, signed by yourself and Mr. Alexander Graham, on the subject of the elevations of the buildings to be erected in connection with the Holborn to the Strand street, stating that the Royal Institute of British Architects still disagree with the conditions made by the Council upon which the designs are to be invited, and adding that while these conditions are not amended the Institute regret that they are unable to make further nominations. With reference thereto I have to inform you that the Committee, after a full and careful review of all the facts, regret that they do not see their way to advise the Council to make any further modifications in the conditions, and the Committee, therefore, have felt compelled to proceed to nominate two other architects to fill the places of Mr. Norman Shaw and Mr. Collcutt, who were nominated by the Royal Institute but were unable to accept the invitation.—I am, dear Sir, yours faithfully,

C. J. STEWART *Clerk of the Council.*

THE JUNE EXAMINATIONS.

Preliminary.

The Preliminary Examination, qualifying for registration as *Probationer R.I.B.A.*, was held on the 12th and 13th June in London and at the provincial centres indicated below. The examinations in the provinces were conducted by the Allied Societies of the respective districts. Of the 210 candidates admitted, 35 were exempted from sitting, and the remaining 175 examined, with the following results:—

	Total Examined	Passed	Relegated
London	98	70	28
Birmingham	6	3	3
Cardiff	9	8	1
Manchester	32	24	8
Newcastle	18	12	6
Nottingham	7	5	2
York	5	3	2
	175	125	50

The successful candidates, with those exempted, making a total of 160 newly registered Probationers, are as follows:—

ADAM: David Alex.; 55, Rothbury Terrace, Heaton, Newcastle-on-Tyne [*Masters*: Messrs. Badenoch & Bruce].

ADAMS: Percy Tidswell; Enderleigh, Snowdon Road, Bournemouth [*Masters*: Messrs. Lawson & Reynolds].

ALLEN: Ernest Gladstone; 10, Morland Road, Croydon [*Master*: Mr. C. M. Shiner *].

AUBREY: Hubert Denis; Springfield, Chelmsford [King Edward's School, Chelmsford].

BAILEY: Gervase; 43, Sinclair Road, West Kensington Park, W. [*Master*: Mr. A. H. Kersey].

BANNISTER: Christopher; Springfield, Crowborough, Sussex [*Master*: Mr. Langton Dennis *].

BARROW: Robert Gerald; Torridge House, East the Water, Bideford, Devon [*Masters*: Messrs. R. T. Hookway & Son].

BEAZLEY: Tom Forrest; The Terrace, Harton, South Shields [*Master*: Mr. J. Wardle Donald *].

BENSON: Leslie Bernard Gilpin; Grove Dene, Preston Road, Yeovil, Somerset [*Master*: Mr. C. B. Benson].

BERRY: Arthur Gilbert; Lime Tree House, Thorpe Village, Norwich [*Masters*: Messrs. G. J. * & F. W. Skipper].

BEVIS: Richard Henry Percy; 14, Elm Grove, Southsea [*Master*: Mr. C. W. Bevis *].

BIRKS: Ellis Rawson; 17, Brocco Bank, Sheffield [*Master*: Mr. C. B. Flockton *].

BLACKADDER: Henry; Bellevue, Broughty Ferry, N.B. [*Master*: Mr. T. Martin Cappon *].

BOLDERO: Fitzroy Frederick; The Ivy House, Penkridge, Staffs [*Master*: Mr. J. G. Dunn *].

BROOKS: William Edward; 7, Norris Street, Haymarket, W. [*Master*: Mr. A. W. Jarvis *].

BROWN: Baldwin; 19, Leamington Street, Bradford, Yorks [*Master*: Mr. Rhodes Calvert *].

BRYCE: George Ronald; 46, Lawrence Street, Partick, Glasgow [*Masters*: Messrs. John Burnet * & Son *].

BULLOCK: Albert Edward; 72, Edgware Road, W. [*Master*: Mr. T. J. Bailey *].

BURGOINE: Stephen; 154, Camberwell Grove, Camberwell, S.E. [*Master*: Mr. R. G. Hammond].

BURTON: Geoffrey; Riverside, London Road, Enfield [*Master*: Mr. V. Butler-Smith].

BUTTERS: Benjamin Harlow; c/o T. Herbert Buckwell, Esq., Union Chambers, 162–63, North Street, Brighton [*Master*: Mr. T. H. Buckwell].

CALTHROP: William Wellesley James; The Bungalow, Springfield, Chelmsford [*Masters*: Messrs. Clare & Ross *].

CAMPBELL: Archibald Neil; Lansdowne, Hampton-on-Thames, Middlesex [*Master*: Mr. Thos. E. Collcutt *].

CHESSHIRE: Cyril Barnabas; 30, Comeragh Road West, West Kensington, W. [*Master*: Mr. R. A. Briggs *].

CHORLTON: George Reginald Osbert; Oak House, Andenshaw, near Manchester [*Masters*: Messrs. Royle * & Bennett *].

CLARKE: Henry Francis; 27, Dockwray Square, North Shields [Newcastle Modern School].

CLOUTING: Charles Emmerson; Hartington Grove, Cambridge [*Master*: Mr. A. P. Macalister *].

COLLIN: William Henry; 79, Chelverton Road, Putney, S.W. [*Master*: Mr. H. Higginson].

COOKE: Robert Tyers; Junction Road, Belgrave Gate, Leicester [*Master*: Mr. Arthur Wakerley].

CUBEY: Joseph Berkeley; 13, Osborne Avenue, South Shields [*Master*: Mr. J. Walter Hanson].

CUNLIFFE: Ernest Thomas; Park View Crescent, Blackburn [*Master*: Mr. Walter Stirrup].

DALE: Thomas Lawrence; 87, Adelaide Road, Hampstead [University College School].

DAWSON: Noel John; Foxhall Hall, Nacton, Ipswich [*Master*: Mr. T. W. Cotman].

DAY: Sidney Reyner; 20, Salisbury Street, Skipton [*Master*: Mr. J. Holmes Greaves].

DENTON: Charles Willing; 55, Dartmouth Park Road, Highgate Road, N.W. [*Masters*: Messrs. Gordon * & Gunton *].

DONALDSON-SELBY: Thomas Tyssen Grey; 19, Argyle Square, King's Cross, W.C. [*Master*: Mr. H. D. Searles Wood *].

DOUGLAS: Alfred William; Beech Villa, Matlock Bank, Derbyshire [Cavendish School, Matlock].

DUNCAN: Harold James Teape; 32, Clarendon Road, Holland Park, W. [Eastbourne College].

EARNSHAW: Harold Hicks; 4, Chapel Walks, Manchester [*Master*: Mr. J. R. Earnshaw *].

ELTRINGHAM: John Joseph; Railway Terrace, Blackhill, co. Durham [*Master*: Mr. W. Lister Newcombe *].

FARMER: Harold Quentery; Millbrook Vicarage, Stalybridge, Cheshire [*Master*: Mr. J. M. Taylor].

FORD: Henry Francis Paul; 66, Hurlingham Road, Fulham, S.W. [*Master*: Mr. E. A. Victor].

FORSTER: Douglas Alfred; Fernlands, Chertsey, Surrey [*Master*: Mr. E. S. Gale].

GAUNT: Edward Lawrence; Briarfield, Ilkley, Yorks [*Master*: Mr. Thomas Barker].

GILDERSLEEVE: Frank Stanton; Stanton House, Breeds Place, Hastings [*Master*: Mr. Henry Ward *].

GOODWIN: Charles John; 4A, St. John's Road, Croydon, Surrey [*Master*: Mr. R. A. Crowley *].

GOULSTON: Reginald John; 4, Byne Road, Sydenham, S.E. [*Master*: Mr. A. R. Stenning *].

GRAHAM: Robert Francis, B.A. Cantab.; 265, Vauxhall Bridge Road, S.W. [*Master*: Mr. B. Vaughan Johnson *].

GRANT: Leonard Bishopp; High Street, Sittingbourne [Felsted School, Essex].

GREEN: Jordan; 33, South Road, Handsworth, Birmingham [*Masters*: Messrs. Oliver Floyd & Salt].

GREENWOOD: William; 13, Feilden Street, Blackburn [*Masters*: Messrs. Simpson & Duckworth].

GREIG: Ronald Hamilton; Randalls Park Farm, Leatherhead, Surrey [Dulwich College].

GRIFFEN: Sydney Robert; Hoe Villas, 15, Elliot Street, Plymouth [*Master*: Mr. B. Priestley Shires *].

HARVEY: Arthur Bernard; Watling House, Canterbury [Kent College, Canterbury].

HASNIP: Arthur Hugh; Chalvington, Baldslow Road, Hastings [*Master*: Mr. F. H. Humphreys *].

HITCHINS: Walter William; 12, Wyndham Square, Plymouth [*Master*: Mr. B. Priestley Shires *].
HOBGEN: Douglas John; Manor House, Appledram, Chichester [St. Helen's College, Southsea].
HOLMAN: Arthur Rowland; 27, Westbourne Road, Penarth, S.W. [*Masters*: Messrs. Jones, Richards, & Budgen *].
HORROCKS: Percy Aspden; 11, Silverdale Road, Bolton, Lancs [*Master*: Mr. W. R. Haworth].
INGLEDEW: Walter Arnold; 61, Percy Park, Tynemouth, Northumberland [*Master*: Mr. Charles S. Errington *].
INGRAM: Thomas Frederick; 13, Westfield Grove, Wakefield [Wakefield Grammar School].
JACKSON: Charles Henry; 19, Blackwood Street, East Street, Walworth, S.E. [St. Olave's Grammar School, Southwark].
JONES: Hugh Parry; 6, Lancaster Square, Conway, N. Wales [*Master*: Mr. Joseph Owen].
JONES: Matthew Meredith Creasey; 3, Derby Terrace, Sandyford Street, Glasgow [*Masters*: Messrs. Clarke, Bell, & R. A. Bryden *].
KEASLEY: John Norman; The Hawthorns, Meadvale, Redhill, Surrey [*Master*: Mr. L. A. Withall *].
KENNARD: John Harold; Granville, Reigate Hill, Reigate, Surrey [Reigate Grammar School].
KERSHAW: Harold; Windsor Lodge, Cambridge Road, Worthing [*Master*: Mr. J. G. Gibbins *].
KIDD: William Alexander; Milton Lodge, Greenock, N.B. [*Masters*: Messrs. James Salmon & Son *].
LANG: James Henry; 110, King Street, Dukinfield, Cheshire [*Master*: Mr. Joseph Nodal].
LOMAS: William Henry; 17, Holme Road, Burnley [*Master*: Mr. W. H. Atkinson].
LOVELL: Charles Ernest; 66, Darnley Road, Gravesend [*Masters*: Messrs. Rayner & Bridgland].
LOVELL: Percy Wells; Lynwood, Highgate, N. [*Master*: Mr. Aston Webb,* A.R.A.].
LUKER: Percy; 19, Waldeck Road, West Ealing, W. [*Master*: Mr. J. Edward Still].
LUND: John Bernard; St. Peter's Vicarage, Chorley, Lancs [St. Cuthbert's College, Worksop].
MACKINTOSH: William; Maywood, Inverness, N.B. [Inverness College].
MACNALTY: Herbert Pemberton; 27, Southgate Street, Winchester [Rev. W. Clark's School, Winchester].
MARKHAM: John Hatton; Culver, Overton Road, Sutton, Surrey [*Master*: Mr. W. G. Ross *].
MARSHALL: Hugh John Cole; 119, Grosvenor Road, S.W. [*Masters*: Messrs. R. Bentley & Son].
MERRISON: Charles Redford; 26, Maury Road, Stoke Newington, N. [*Master*: Mr. John T. Lee *].
MIDDLETON: Vibert; 20, Lynnwood Avenue, Newcastle-on-Tyne [Newcastle Modern School].
MILBURN: Charles William; 12, Union Street, Newcastle-on-Tyne [*Masters*: Messrs. Badenoch & Bruce].
MILES: Stanley Charles; Virscot, Boscombe, Bournemouth [*Master*: Mr. Charles T. Miles *].
MILLAR: Ewart Gladstone; Hollyhurst, Clapham Common, S.W. [Manor House School, Clapham].
MONSON: Christopher John; The Avenue, Newark, Notts [*Master*: Mr. Harold Bailey *].
MUIR: Andrew; 8 Greenbank Terrace, Edinburgh [*Master*: Dr. Rowand Anderson].
MUNDLE: Ernest Ranson; 21, Moor View, Jesmond, Newcastle-on-Tyne [*Master*: Mr. W. H. Bendle].
MURRELL: Harold Franklyn; 4, Thurlow Park Road, West Dulwich, S.E. [*Master*: Mr. Beresford Pite *].
NIXEY: Edward Robbins; Brunswick House, Hartlepool [*Master*: Mr. James Garry *].
OGDEN: Robert Douglas; Rookwood, Hilton Lane, Prestwich, Manchester [*Master*: Mr. Paul Ogden *].
OLIVER: Basil; The Brewery House, Sudbury, Suffolk [King Edward VI.'s School, Bury St. Edmunds].
PAGE: George Wilfrid; c/o John Ormrod, Esq., 15, Mawdsley Street, Bolton [*Master*: Mr. John Ormrod *].
PARKHILL: David; Kennet Place, Clifton Park, Belfast [*Master*: Mr. Thomas Pentland].
PATERSON: Claude; Dudley House, Firs Road, Bowdon, Cheshire [*Master*: Mr. John Brooke *].
PENDLETON: Basil; Norwood, Wilbraham Road, Alexandra Park, Manchester, S.W. [*Master*: Mr. Thomas Muirhead *].
PIERPOINT: Leonard; 5, Palmyra Square, Warrington [Warrington Grammar School].
PILE: Montague Cory; 7, Salisbury Terrace, Newbury [Newbury Grammar School].
PONDER: Claud Vincent; The College, Eastbourne [Eastbourne College].
POWYS: Albert Reginald; Montacute Vicarage, Somerset [*Masters*: Messrs. C. & C. B. Benson].
PRESTWICH: Harold Oswald; Highfield, St. Helen's Road, Leigh, Lancashire [*Master*: Mr. J. C. Prestwich].
PRITCHARD: Henry Melancthon; 153, Mackintosh Place, Roath, Cardiff [*Masters*: Messrs. J. P. Jones, Richards, & Budgen *].
PROCTER: Mowbray; Cliff Terrace, Hartlepool [*Master*: Mr. J. J. Wilson].
QUIGGIN: Edgar; Tunstall, Blundellsands, Liverpool [*Master*: Mr. Henry Hartley *].
RAE: Thomas Herdman; 17, Park Place East, Sunderland [*Masters*: Messrs. William & T. R. Milburn *].
RAINE: Frederick; 19, Westmorland Road, Newcastle-on-Tyne [*Masters*: Messrs. Liddle & Browne].
RAWLES: Langley Alfred George Ludwig; Langdale House, Harrow-on-the-Hill [*Master*: Mr. R. A. Briggs *].
REANEY: George Robert Hamilton; Christ Church Vicarage, Westcombe Park Road, Blackheath, S.E. [*Master*: Mr. Banister F. Fletcher *].
RICHARDS: Thomas Edgar; Tynewydd, Barry, Cardiff [*Masters*: Messrs. Jones, Richards, & Budgen *].
RICHARDS: Thomas Morgan; Glanteg, Plymouth Road, Penarth, S. Wales [*Masters*: Messrs. Teather & Wilson].
RICHER: Frederick Gibbon; 34, Kew Road, Richmond, Surrey [*Master*: Mr. Frank J. Brewer *].
ROBERTS: William Ewart; Mount Plym House, Plymouth [*Master*: Mr. S. Roberts].
ROBSON: Wilfrid; 5, Balmoral Terrace, Saltburn-by-the-Sea [*Master*: Mr. R. Moore].
ROGERS: William Herbert; 35, Lynette Avenue, Clapham Common, S.W. [*Master*: Mr. Percy Hunter *].
ROSS: Percy Havery; 37, Mercer's Road, Holloway, N. [*Master*: Mr. A. R. Stenning *].
RUNCIE: Samuel; 18 Windsor Terrace, St. George's Road, Glasgow [*Masters*: Messrs. James Salmon & Son *].
RUSHWORTH: Tom Sadler; Dunelm, The Crescent, Croydon [*Master*: Mr. F. G. Knight *].
RYLE: Herbert; 110, Clumber Street, Newcastle-upon-Tyne [*Masters*: Messrs. Armstrong * & Wright].
SAMSON: Hayward Lewis; Braeside, Elmbourne Road, Balham, S.W. [*Master*: Mr. William Harvey *].
SANDERS: Henry Partridge; 57, Oakfield Street, Roath, Cardiff [*Master*: Mr. Edwin Seward *].
SANTO: Victor George; 3 Victoria Villas, The Crescent, Bromsgrove [*Masters*: Messrs. J. A. Chatwin * & Son].
SAWDAY: Tom Trevor; Briarwood, Springfield Road, Leicester [*Master*: Mr. A. E. Sawday *].
SCANTLEBURY: Lawrence; c/o Messrs. Wise & Wise, Architects, Launceston [*Masters*: Messrs. Wise & Wise].
SCHNEIDER: Jesse Francis; 4, Reservoir Road, Brockley, S.E. [*Master*: Mr. J. T. Lee *].

SHARP: Christopher Long; West House, South Shore, Blackpool, Lancs. [*Masters*: Messrs. Thomas P. Worthington & Son].
SHEARER: James Hughan; 8, Bartholomew Terrace, Exeter [*Master*: Mr. F. J. Commin].
SIFTON: Isaac Taylor; 230, Goldhawk Road, W. [*Masters*: Messrs. Read * & MacDonald *].
SLATER: Harold; 3, Granville Road, Blackburn, Lancs. [*Masters*: Messrs. Briggs * & Wolstenholme *].
SMALLMAN: Henry Richard George Strong; Stanstead, Sutton, Surrey [*Masters*: Messrs. Gordon,* Lowther,* & Gunton].
SMITH: Edwin Thomas Llewellyn; 37, Prospect Hill, Walthamstow [*Master*: Mr. W. A. Longmore *].
SMITH: Neil Campbell; Hambledon House, Grove Road, Surbiton, Surrey [*Master*: Mr. Reginald Blomfield].
STEWARDSON: Robert Ernest; 34, Sugden Road, Lavender Hill, S.W. [*Master*: Mr. George Hornblower *].
STONE: George Marrison; The Chauntry, Tuxford, Notts [East Retford Grammar School].
STONE: Henry Spencer Walcott; The Avenue, Taunton, Somerset [*Master*: Mr. H. Roberts].
STONEHOUSE: Charles; 42, Adelaide Terrace, Blackburn [*Masters*: Messrs. Briggs * & Wolstenholme *].
STRONG: Percy Ripley; 3, Balham Park Mansions, Wandsworth Common, S.W. [*Masters*: Messrs. Middleton * & Carden *].
SUGDEN: John Towneley; 38, March Street, Manchester, C.-on-M. [*Master*: Mr. John Ely *].
SWINDELLS: Harry Cecil; Burnthorpe, Fairfield, nr. Manchester [*Master*: Mr. Joseph Swarbrick].
THORPE: John William; Woodville Terrace, Lytham [*Master*: Mr. T. C. Grimble *].
TOBIAS: Maurice; Churchill, 73, Priory Road, West Hampstead, N.W. [*Master*: Mr. Leonard V. Hunt *].
TUCKER: Alfred Nicholson; c/o A. S. Parker, Esq., 20 George Street, Plymouth [*Master*: Mr. A. S. Parker *].
TURNER: Percy; 174, St. Leonard's Road, Girlington, Bradford [*Masters*: Messrs. James Young & Co.].
TWEEDIE: James Irving; 43, Lady Street, Annan, Scotland [*Master*: Mr. Frank J. C. Carruthers].
VAUGHAN: James Henry; The Beeches, Llanthewy Road, Newport, Mon. [*Masters*: Messrs. Habershon, Fawckner & Groves].
VEALE: Louis Charles; 12, Coleridge Road, Finsbury Park, N. [*Master*: Mr. Henry H. Tasker].
WADDELL-DUDLEY: Francis Guilford; St. Stephen's Vicarage, St. Albans, Hertfordshire [*Master*: Mr. Aston Webb,* A.R.A.].
WAITE: Richard Arthur; Grove House, Sydenham Place, Bradford, Yorks [*Master*: Mr. Rhodes Calvert *].
WALDER: Horace Hampton James; 1 Kingsfield Road, Liverpool Street, Southampton [*Masters*: Messrs. Colson,* Farrow,* & Nisbett *].
WALKER: Marshall Eyre; Broomlands, Byfleet, Surrey [*Master*: Mr. James Ransome *].
WALLIS: Samuel, London Road, Kettering [*Masters*: Messrs. Gotch * & Saunders].
WATSON: William Ernest; 35, Ardgowan Street, Greenock, N.B. [*Master*: Mr. J. J. Burnet, A.R.S.A.*].
WEST: Harry; 34, Northbrook Street, Newbury, Berks [*Master*: Mr. W. H. Bell].
WHETTAM: John Charles; 8, Lennox Street, Weymouth [*Master*: Mr. A. J. Bennett].
WHIPP: Thomas William; 156, Falsgrave Road, Scarborough [*Master*: Mr. C. Edeson].
WHITTINGTON: Herbert Hodges; West End, nr. Hayes, Middlesex [*Master*: Mr. H. Tooley *].
WHYMPER: William; Framlingham College, Suffolk [Framlingham College].
WOOD: Arthur Gilbert; Hillcrest, Woodland Avenue, Wolstanton, Stoke-on-Trent [*Masters*: Messrs. Wood & Hutchings *].
WOODSEND: Henry Edward; 16, Villa Road, Nottingham [*Master*: Mr. A. N. Bromley *].
WOODWARD: Alexander Lionel; 69, Kennington Oval, S.E. [*Master*: The late Mr. John A. J. Woodward].
WYETH: Henry J.; Bankside, Epsom, Surrey [*Master*: Mr. G. F. Grover].
YATES: Reginald William; Fartown Grammar School, Huddersfield [Fartown Grammar School].
YOUNG: Henry; Westfield, Bromham Road, Bedford [Bedford Grammar School].

The asterisk (*) denotes members of the Institute.

Intermediate.

The Intermediate Examination, qualifying for registration as *Student R.I.B.A.*, was held in London and the various provincial centres indicated below on the 12th, 13th, and 14th June. The examinations in the provinces were conducted by the Allied Societies of the respective districts. Sixty-three candidates were examined, the results being as follows:—

	Total Examined	Passed	Relegated
London . . .	45	34	11
Manchester . . .	13	5	8
Newcastle . . .	5	3	2
	63	42	21

The successful candidates, all of whom have been registered as *Students R.I.B.A.*, are as follows, the names being given in order of merit, as placed by the Board of Examiners:—

ROLLO: Andrew [*Probationer* 1897]; c/o Messrs. Stark & Rowntree, 5, Great College Street, Westminster, S.W. [*Masters*: Messrs. Stark & Rowntree].
STRETTON: Clement [*Probationer* 1898]; 2, Mecklenburg Street, Leicester [*Master*: Mr. Stockdale Harrison *].
PALMER: Charles Thomas [*Probationer* 1898]; 21, Bow Road, E. [*Master*: Mr. W. F. Unsworth *].
ENSOR: Leonard William [*Probationer* 1898]; Rydal Mount, Birkby, Huddersfield, Yorks [*Master*: Mr. Joseph Smith *].
GOODWIN: Sidney Hall [*Probationer* 1896]; 4A, St. John's Road, Croydon [*Master*: Mr. R. A. Crowley *].
CHAMBERLAIN: Reginald Percy [*Probationer* 1899]; 175, Hinckley Road, Leicester [*Master*: Mr. Stockdale Harrison *].
LEECH: Norman Austin [*Probationer* 1898]; 24, Stanley Gardens, Hampstead, N.W. [*Master*: Professor R. Elsey Smith *].
SWARBRICK: John [*Probationer* 1897]; Circular Road, Withington, Manchester [*Master*: Mr. Joseph Swarbrick].
BROWN: John [*Probationer* 1898]; 21, Bailiff Street, Northampton [*Masters*: Messrs. C. Dorman & Son *].
HAWARD: Francis Robert Boyd [*Probationer* 1898]; 19, Nelson Road South, Great Yarmouth, Norfolk [*Masters*: Messrs. Bottle * & Olley].
ABERCROMBIE: Leslie Patrick [*Probationer* 1898]; Lynngarth, Brooklands, Manchester [*Master*: Mr. Charles H. Heathcote *].
PAYNE: Edwin Osman [*Probationer* 1898]; 14, St. Petersburgh Place, Kensington Gardens, W. [*Masters*: Messrs. Niven * & Wigglesworth *].
HAWKINS: Percival William [*Probationer* 1894]; 39, Beauval Road, Dulwich, S.E. [*Master*: Mr. Sydney Perks *].
MILLER: James [*Probationer* 1898]; 30, Beechhill Road, Sheffield [*Masters*: Messrs. Hemsoll & Paterson *].

STRATTON: Frank Edward [*Probationer* 1897]; Quidhampton, Salisbury [*Master*: Mr. A. C. Bothams].
VINING: John Norman Randall [*Probationer* 1899]; Grove House, Jews' Walk, Sydenham, S.E. [*Master*: Mr. J. Randall Vining].
TEDMAN: Arthur [*Probationer* 1898]; 26, Durdham Park, Bristol [*Master*: Mr. F. Bligh Bond *].
PAYNE: Wilfrid Stonehouse [*Probationer* 1898]; 14, St. Petersburgh Place, W. [*Master*: Mr. G. H. Hunt *].
STEEL: William [*Probationer* 1899]; 8, Eden Street, Newcastle Road, Sunderland [*Master*: Mr. Frank Caws *].
HEMINGWAY: Willie [*Probationer* 1898]; 37, Tong Moor Road, Bolton [*Master*: Mr. J. Simpson].
TAIT: Henry Makins [*Probationer* 1898]; c/o James Thomson, Esq., 88, Bath Street, Glasgow [*Master*: Mr. James Thomson *].
WARD: Charles Frederick [*Probationer* 1898]; Stoneleigh Villa, West Bromwich [*Master*: Mr. Wm. Henman *].
JOHNSON: Arthur Haynes [*Probationer* 1898]; 10, Clifton Terrace, Winchester [*Master*: Mr. Thos. Stopher.]
HOLDER: Archibald Lawrence [*Probationer* 1898]; 5, Bloomsbury Square, W.C. [*Master*: Mr. W. West Neve.]
MOORHOUSE: Geoffrey Goodwin [*Probationer* 1896]; Sunnyside, Freshfield, near Liverpool [*Master*: Mr. C. A. Atkinson].
CHURCH: Guy [*Probationer* 1898]; Sunny Bank, Warlingham, Surrey [*Master*: Mr. Beresford Pite *].
FORD: Sir Francis Charles Rupert, Bart. [*Probationer* 1899]; 8, Richmond Place, Ilkley, Yorks [*Masters*: Messrs. Chorley,* Connon,* & Chorley *].
SHARP: George Lister Thornton [*Probationer* 1897]; Prospect House, Barnes, S.W. [*Master*: Mr. Thos. E. Collcutt *].
JACKSON: George Herbert [*Probationer* 1899], Willoughby, Boscombe, Bournemouth [*Masters*: Messrs. Lucas].
LETHBRIDGE: James Morton [*Probationer* 1898]; 9, Cholmeley Villas, Highgate, N. [*Master*: Mr. George Lethbridge *].
PROCTER: Basil [*Probationer* 1895]; 2, Otterburn Villas, Newcastle-on-Tyne [*Master*: Mr. F. W. Rich *].
BARCLAY: Fergusson [*Probationer* 1898], Manor Mead, Weston-super-Mare [*Master*: Mr. F. Bligh Bond *].
CREWDSON: Henry Douglas [*Probationer* 1895], Egg Hall, Epping, Essex [*Master*: Mr. Chas. H. Heathcote *].
HOBDAY: William Herbert [*Probationer* 1898]; 19, Kyverdale Road, Stoke Newington, N. [*Master*: Mr. W. Henry White *].
PARLETT: John [*Probationer* 1898]; 142, Rucklidge Avenue, Harlesden, N.W. [*Master*: Professor Elsey Smith *].
ROE: George Maurice [*Probationer* 1898]; Cheriton, De Cham Rood, St. Leonard's-on-Sea [*Master*: Mr. Henry Ward *].
SHEPHERD: Godfrey Daniel Bower [*Probationer* 1899]; Hambledon House, Grove Road, Surbiton [*Master*: Mr. J. Murray Robertson *].
STEEL: William Peter [*Probationer* 1896]; 7, Carlton Road, Sidcup, Kent [*Master*: Mr. E. Habershon *].
WILKINS: Victor [*Probationer* 1895]; 41, Cawley Road, Victoria Park, N.E. [*Masters*: Messrs. Truefitt * & Watson *].
WILLIAMSON: Arthur Albert [*Probationer* 1896]; Logie Fens, Lochee, Dundee, N.B. [*Master*: Mr. J. H. Langlands].
WILSON: Robert Gordon, jun. [*Probationer* 1897]; 42, Muirpark Gardens, Partick, Glasgow [*Master*: Mr. N. G. Wilson].
WINTERBURN: Archibald Herbert [*Probationer* 1894]; 1, Lily Terrace, Wealdstone, Harrow [*Master*: Mr. Edmund Woodthorpe *].

The asterisk (*) denotes members of the Institute.

Final and Special.

The Final and Special Examinations, qualifying for candidature as *Associate R.I.B.A.*, were held in London from the 22nd to the 28th June. Of the forty-seven candidates examined, twenty-one passed, and the remaining twenty-six were relegated to their studies. The successful candidates, now qualified (subject to Section 8 of the Charter) for candidature as Associates, are as follows:—

CHESNEY: Samuel [*Probationer* 1892, *Student* 1895]; South Street, Stourbridge.
CLAY: George Edward [*Probationer* 1890, *Student* 1894]; c/o Messrs. Rayner & Bridgland, 16, New Road, Gravesend.
COMYN: Charles Heaton FitzWilliam [*Probationer* 1895, *Student* 1898]; c/o R. S. Balfour, Esq., 76, Inverness Terrace, W.
COOPER: Harold [*Probationer* 1896, *Student* 1897]; Feniscowles Old Hall, near Blackburn.
†DAUBNEY: Charles Archibald [*Special Examination*]; 1, Wellington Road, Peckham, S.E.
EMERSON: William Ernest [*Probationer* 1895, *Student* 1896]; 36, Nevern Square, South Kensington.
FRANCK: James Ernest [*Probationer* 1893, *Student* 1897]; 44, Boundary Road, St. John's Wood, N.W.
GROOME: Arthur Reginald [*Probationer* 1893, *Student* 1896]; Alder Bank, Chorlton-cum-Hardy, near Manchester.
HAINES: Herbert [*Probationer* 1893, *Student* 1895]; 26, College Avenue, New Brompton, Kent.
HARRIS: Emanuel Vincent [*Probationer* 1893, *Student* 1897]; 44, Mornington Road, Regent's Park, N.W.
HARVEY: Frederick Milton [*Probationer* 1893, *Student* 1895]; 48, Lowestoft Road, Gorleston, Great Yarmouth.
HEATH: John Stanley [*Probationer* 1895, *Student* 1897]; Kingsbridge, Westcombe Park, S.E.
NOBBS: Percy Erskine, M.A. [*Probationer* 1897, *Student* 1897]; c/o R. S. Lorimer, Esq., 49, Queen Street, Edinburgh.
†NORTH: Sidney Vincent [*Special Examination*]; 203, Strand, W.C.
SMITH: Cyril Wontner [*Probationer* 1893, *Student* 1897]; Grasmere, Hendon Lane, Finchley, N.
SWANN: William Herbert [*Probationer* 1899, *Student* 1899]; 49, Lambeth Palace Road, S.E.
SYMON: Alexander [*Probationer* 1898, *Student* 1899]; 4, Shawfield Street, King's Road, S.W.
TORRANCE: Andrew Mitchell, jun. [*Probationer* 1893, *Student* 1897]; Clydesdale, 16, Highbury Quadrant, N.
TWIZELL: Robert Percival Sterling [*Probationer* 1897, *Student* 1898]; 26, Harrison Place, Newc.-on-Tyne.
VARNDELL: Charles Edward [*Probationer* 1896, *Student* 1899]; 286, Vauxhall Bridge Road, S.W.
YOUNG: Clyde [*Probationer* 1895, *Student* 1898]; Ferndale, Gipsy Lane, Putney, S.W.

[† Candidates marked thus † were admitted to the Special Examination, under the following regulation:—"Architects in practice not less than 25 years of age, and chief assistants over 30 years of age, who desire to be admitted as Associates, can be exempted from passing the Preliminary and Intermediate Examinations and from sending in Testimonies of Study. They can be admitted, by resolution of the Council in each case, to a Qualifying Examination (namely, the Final of the three examinations), which is conducted with especial regard to the requirements of such architects, their professional works and position being duly taken into account by the Board of Examiners."]

The following table shows the number of failures in each subject of the Final and Special Examinations:—

I.	Design	24
II.	Mouldings and Ornament . .	14
III.	Building Materials . . .	5
IV.	Principles of Hygiene . . .	3
V.	Specifications	4
VI.	Construction: Foundations, &c. .	4
VII.	Construction: Iron and Steel, &c.	6

Special Election to Fellowship.

The Council, at their meeting of the 2nd inst., on the unanimous recommendation of the Council of the Royal Institute of the Architects of Ireland, elected the following gentleman to Fellowship of the Institute under the proviso to By-law 9:—

Vincent Craig, 5 Lombard Street, Belfast.

The Standing Committees, 1900–1.

The following appointments to the Standing Committees have been made by the Council under By-law 46:—

Art.—Sir L. Alma-Tadema, R.A. [*H.A.*]; Mr. H. W. Brewer [*H.A.*]; Mr. T. Raffles Davison [*H.A.*]; Mr. George Frampton, A.R.A. [*H.A.*]; Mr. H. Heathcote Statham [*F.*].

Literature.—Mr. Francis Bond, M.A. [*H.A.*]; Mr. J. D. Crace [*H.A.*]; Professor Baldwin Brown, M.A. [*H.A.*]; Dr. A. S. Murray [*H.A.*]; Mr. E. W. Hudson [*A.*].

Practice.—Mr. Thomas Blashill [*F.*]; Mr. John Slater, B.A. [*F.*]; Professor T. Roger Smith [*F.*]; Mr. Max. Clarke [*A.*]; Mr. H. A. Pelly [*A.*].

Science.—Sir Alexander Binnie, M.Inst.C.E. [*H.A.*]; Mr. H. F. Donaldson, M.Inst.C.E. [*H.A.*]; Mr. J. S. Gibson [*A.*]; Mr. Hugh Leonard [*H.A.*]; Mr. F. T. Reade [*H.A.*].

Reform in the Law of Ancient Lights.

In accordance with the resolution passed at the General Meeting of the 9th April, the following joint Committee has been appointed by the Council of the Institute and the Council of the Surveyors' Institution to take steps to effect an alteration in the existing Law of Ancient Lights:—

Appointed by the Institute:—
Mr. Edw. A. Gruning [*F.*],
Prof. T. Roger Smith [*F.*],
Mr. J. Douglass Mathews [*F.*],
Mr. J. Fletcher Moulton, Q.C., M.P. [*H.A.*].

Appointed by the Surveyors' Institution:—
Mr. A. Rose Stenning,
Mr. A. T. Steward,
Mr. H. Chatfeild Clarke,
Mr. G. Mallows Freeman, Q.C.

The Committee, under the Chairmanship of Professor Roger Smith, have already held two meetings.

The Fifth International Congress of Architects (Paris, 1900).

The following have been appointed by the Council of the Institute as delegates to the International Congress of Architects which takes place at Paris during the week 30th July to 4th August:—

Mr. J. J. Burnet, A.R.S.A. [*F.*],
Professor G. Baldwin Brown [*H.A.*],
Mr. W. J. Locke, *Secretary R.I.B.A.*

The Architects' Registration Bill.

By direction of the Council the following statement against the Architects' Registration Bill was sent to every member of the House of Commons on the 13th inst., when the second reading was expected to be taken:

The Council of the Royal Institute of British Architects are in OPPOSITION to the principle of the above Bill on the following grounds:—

1. The Bill proposes to provide for the Legal Registration of Architects, for the purpose ostensibly of enabling the public to distinguish qualified from unqualified practitioners, and makes registration under the proposed Act the evidence of qualification. By Clause 19, every person who was practising "Architecture" prior to January 1, 1899, may register himself as a qualified practitioner, the immediate effect of which would be registration by a large number of persons respecting whose qualifications to practise as Architects nothing whatever would be known; and it is but reasonable to suppose that the first to register would be those who felt that they were not able to face a qualifying examination, such as that which is required from professional members of the Royal Institute of British Architects before admission to its ranks. By Clause 21, no person is to be allowed to use the title "Architect," unless so registered, but by omitting the word "Architect" from the title of "Architect and Surveyor," which is commonly used, any person will still be at liberty to practise Architecture, however wanting in qualification, so far as the provisions of the Bill are concerned.

2. The Bill, moreover, defeats its avowed object by specially exempting the professional members of the Surveyors' Institution, and of the Institution of Civil Engineers, from its most important provisions (Clauses 27 and 28), as Surveyors very generally include the practice of Architecture in their business, and many Engineers do the same. The general public would gain little even by the enforced registration of only qualified "Architects," seeing that the vast majority of ordinary dwelling-houses in the United Kingdom are not erected under the superintendence of members of the profession. If the Bill become law no advantage will accrue to the public, inasmuch as by its provisions a vast number of those who now

practise Architecture are either not required to be registered or are specially exempted.

3. The Bill may be fitly described as one to abolish the functions of the *bonâ fide* Architect, and to substitute those of the Surveyor and the Engineer, without the guarantee of qualification that Architects now possess. Much that, from an educational point of view, may be commendable in the Bill has been and is being accomplished by the Royal Institute of British Architects, with results which, under the provisions of the Bill, could only have been imperfectly obtained, if ever, at some remote period, and after incalculable injury had been done to Architecture, as well as to those qualified to practise it.

W. J. Locke, *Secretary R.I.B.A.*

Annual Meeting of the Royal Architectural Museum, 20th July 1900.

Although the attendance of the members of the Royal Institute of British Architects was not so numerous as had been hoped, the gathering was a fairly representative one, and several old friends of the Museum, notwithstanding the excessive heat, came to evince their continued interest in the welfare of the institution and to accord a hearty welcome to the new President, Mr. William Emerson, the President of the Royal Institute of British Architects. Some subscribers wrote to express their approval of the nomination of the Council for the Presidentship, and others, whose cordial support of the Museum has always been valued, promised to attend, but from some unexpected reason were prevented from being present. Owing to the fact that the school session terminated at the end of June the students of the School of Art were absent; a circumstance which, while it caused the Council of the Museum much regret, could not be avoided, seeing that the Conference of Architects held last month made it desirable to postpone the Annual Meeting of the Museum to a later date than usual. This explanation seems desirable, but the work exhibited in the class rooms last Friday sufficiently indicated the capabilities of the students attending the classes, though they personally were not present owing to the Vacation having already commenced. Mr. Aston Webb, A.R.A., F.S.A., Member of Council of the Museum, occupied the Chair prior to the election of the new President. The Hon. Secretary read the Annual Report as follows:—

The Council of the Royal Architectural Museum and Westminster School of Art in presenting their Report for the year 1899 have in the first place to deplore the great loss the Institution has sustained by the death of its President, the late Duke of Westminster, K.G., who manifested so keen and generous an interest in its welfare. Some years ago His Grace voluntarily became a subscriber to the Museum, afterwards consenting to act as one of its Trustees; and later on he succeeded the Lord Bishop of Ely in the office of President, in which capacity he presided, whenever it was possible, at the Annual Meetings, and contributed with his accustomed liberality to the funds of the Institution.

They have also to record with deep regret the death of Sir Arthur Blomfield, A.R.A., a warm and liberal supporter of the Museum from its earliest days, who at the last Annual Meeting was elected one of the Vice-Presidents, in place of the late Mr. Walter Carew-Cocks.

The Council have further to record the loss which not only they, but all lovers of Art in its varied forms have sustained by the death of Mr. John Ruskin, who was an early and enthusiastic supporter of the Museum, who enriched it by his gifts of examples of Florentine Art, and on various occasions gave its supporters the advantage of his eloquent and learned disquisitions.

The Westminster School of Art continues to justify its high reputation as one of the most important Schools of Art in the Kingdom. In the examinations held in 1899 the students acquitted themselves satisfactorily, especially in the most advanced subjects. In Drawing from the Life no fewer than 64 students of this School sat for examination, with the following results, which are placed side by side with the figures for the whole of the United Kingdom:—

	Westminster School of Art.	United Kingdom.
Excellent	9	113
1st Class	17	225
2nd Class	29	770
Failed	9	419
Total Candidates	64	1527

It will thus be seen that in this School of Art 14 per cent. attained the highest award (excellent) against 7·4 per cent. for the Kingdom generally, and that only 14 per cent. failed against 27·4 per cent. Two of the students were bracketed third amongst the 1,527 candidates who sat for Drawing from the Life, and were awarded Queen's Prizes.

In the National Competition, in which all Schools of Art take part, the awards to Westminster students included the following:—

William Batchelor,	Silver Medal for modelled design for a mirror frame.
,, ,,	Bronze Medal for modelled design for a panel.
John Bart Higgins,	Bronze Medal for modelled design for a book cover.
,, ,,	National Book Prize for modelled design for a finger plate.
Henry Jas. Strutt,	Bronze Medal for modelled design for a panel.
Edgar G. Perman,	Prize for design for surface decoration.
Isabel M. Smith,	Prize for design for surface decoration.

Mr. Strutt's panel was afterwards purchased by the Department of Science and Art.

In concluding their Report the Council venture to hope that some recruits may be found to fill the constantly recurring gaps in the list of subscribers caused by the death of the early supporters of this invaluable Museum, unequalled as a repository of the choicest examples of Gothic Architecture.

From the balance-sheet the following figures were referred to as being of much importance. The annual subscriptions amount to only £69 10*s.*, barely sufficient to pay the ground rent of the original premises of the Museum. The School of Art fees and grants amount, however, to £1,056 17*s*. 2*d*. The Science and Art Department Grant earned by the students amounted to £170 17*s*. 2*d*., and the grants of the Technical Education Board of the London County Council Grants came to £505. The Westminster Trust for Free Art Studentships comes to £33, which with Dividends on the Sinking Fund £5 11*s*. 8*d*. made a total of £1,840 17*s*. 11*d*. for the year ending Dec. 31, 1899. The balance, being surplus of income over expenditure, was £160 5*s*. 2*d*. The Hon. Secretary in proposing the adoption of the Report and Balance Sheet briefly reviewed the history of the Museum during the twenty-five years he has held that position, and now that its financial success has been insured he advocated a development of the collection by making it more representative of Classical work, and he urged a more intimate connection between the Royal Institute of British Architects and the Royal Architectural Museum. Mr. W. H. Seth-Smith seconded the adoption of the report, and the Chairman supported the motion, warmly commending the great practical value of the splendid assemblage of casts and examples housed at Tufton Street. He spoke of the great loss the Museum had sustained by the death of the late Duke of Westminster, K.G., its President, a great noble, a great sportsman, a great philanthropist, and a great patron of the Arts. The report having been unanimously approved, Mr. Aston Webb proposed from the Chair the election of Mr. William Emerson as President, whose nomination he most heartily approved. Mr. Hungerford Pollen, M.A., Member of the Council, supported the motion, which evoked the unanimous approbation of the meeting. The President then took the Chair, and after a few appropriate remarks thanking the meeting for the honour conferred upon him by his election in the room of the late Duke of Westminster, Mr. Emerson called upon Mr. William Brindley to propose the re-election of Vice-Presidents, viz. His Grace the Duke of Norfolk, K.G., E.M.; His Grace the Duke of Rutland, K.G., K.C.B.; The Most Hon. the Marquess of Ripon, K.G.; The Most Hon. the Marquess of Bute, K.T.; The Right Hon. the Earl Fortescue; The Right Hon. the Earl of Wemyss and March; and the Lord Grimthorpe, F.R.A.S., with the addition of the following names for election, viz. Mr. John Belcher, A.R.A., Mr. G. F. Bodley, A.R.A., Mr. George Frampton, A.R.A., Mr. J. P. Seddon, and Mr. Aston Webb, A.R.A. The resolution, having been seconded by Mr. Sidney Lee, was carried. Mr. C. Forster Hayward, F.S.A., proposed and Mr. Ingress Bell seconded the re-election of the Council, which comprises the following members, who were re-elected:—Messrs. C. Forster Hayward; Sydney W. Lee; William Pain; J. Hungerford Pollen, M.A.; J. P. Seddon; and Aston Webb, A.R.A., with the following representatives of the London County Council: Messrs. L. H. Hayter, W. R. Lethaby, Dr. Garnett, and A. L. Leon, J.P. The resolution was supported by Mr. William Woodward, who bore testimony to the admirable manner in which the School of Art classes were conducted, speaking from his own knowledge in the case of his son and an assistant. The speaker subsequently to the meeting confirmed his approval of the work being done at the Museum by contributing £10 10*s*. towards the funds. Mr. Arthur Cates proposed the election of the Hon. Treasurer, Mr. Edward L. Somers Cocks, and of the Auditors, Mr. William Pain and Mr. P. D. Leake, Chartered Accountant. Mr. Cates, who for a great many years audited the accounts of the Museum, heartily commended the proposals which had been advocated by the Hon. Secretary for enlarging the scope of the Institution, and Mr. Heathcote Statham in similar terms confirmed Mr. Cates's approval of the report, and seconded the motion, which was carried.

The President then delivered a brief address, during which the need of a thorough study of both Gothic and Classic Architecture was insisted on in order that the student might successfully meet the requirements of contemporary building in a satisfactory way, artistically speaking. The pre-eminent importance of good drawing and the influence of figure draughtsmanship in affording a sense for form and proportion gave occasion for a hearty recognition of the good service rendered to the School of Art held in connection with the Museum by Professor Brown, late Headmaster, and by Mr. Mowat Loudan, the present Principal, under whose teaching the Schools have developed to their present standard of excellence. The President spoke of the proposed co-operation of the Museum with the Institute, and the possibility of a suitable central building in the Metropolis in which the collection, augmented and made more thoroughly representative, might be housed in connection with the Institute and the Architectural Association, where the School of Art might obtain a more direct technical application of the work done towards the enrichment of architectural design and the allied arts.

In proposing a vote of thanks to the two Chairmen Mr. William Pain, Member of the Council and Secretary of the School of Art, indicated the importance of considering in making any changes the absolute necessity of maintaining the School classes as the main source of income. The Hon. Secretary seconded the vote of thanks, which was carried by acclamation. Mr. Aston Webb, A.R.A., and the President having replied, the meeting terminated. An inspection was then made of the modelling and figure studies on view in the class rooms.

Maurice B. Adams.

The late William Henry Powell [*F.*].

News has been received of the death at Maritzburg on the 7th ult. of Mr. W. H. Powell, of Durban and Maritzburg, Natal. Mr. Powell was elected Associate in 1873, and Fellow in 1887. He had been connected during the last ten years with a good deal of the public and private buildings carried out in the Colony of Natal, and at the time of his death was engaged on the new Government Offices in Maritzburg, now erecting by the Colonial Government at a cost of some £55,000. Mr. Powell was fifty-three years of age.

The late Thomas Harris [*F.*]

Mr. Thomas Harris, who died on the 10th inst., in his seventy-first year, had had a long connection with the Institute, having been elected an Associate in 1851 and a Fellow in 1869. Latterly he had served on the Practice Standing Committee.

In 1883–1884 he carried out extensive decorations and a rearrangement of the interior of St. Marylebone parish church. He planned and designed the new choir, added the semicircular apse at the south end of the church, and built a new organ gallery. He was the architect of the St. Marylebone Church Club and Institute, which was opened last January. Mr. Harris devoted considerable pains to the collection of views and memoranda illustrative of the history of the Marylebone gardens and the bowling greens which stood on the ground now occupied by Devonshire Place and the north end of High Street, close by the church, and in 1887 printed, for private circulation, a valuable account of the old gardens.

The late Thomas Meakin Lockwood [*F.*].

Mr. T. M. Lockwood, of Chester, whose death occurred on the 15th inst., had been a Fellow of the Institute since 1887.

Mr. Lockwood carried out numerous works in Chester and in various parts of Wales. Among them may be mentioned the Law Courts at Chester Castle; buildings in Eastgate Row and Budge Street Row, Chester; the restoration of Chester Town Hall, and the Northgate Congregational Church in the same city; the Town Hall, Newport; Municipal Buildings, Oswestry, &c. He designed the Grosvenor Museum and Schools of Art at Chester, and his design for a new front to the Chester Free Public Library was exhibited at the Royal Academy in 1888. The new Town Hall for Newport (Mon.) was designed by Mr. Lockwood in conjunction with Mr. Lansdowne. A year ago he was commissioned to carry out the restoration of Bishop Lloyd's Palace, Chester, erected in 1603.

NOTES, QUERIES, AND REPLIES.

Mr. Moore's "Gothic Architecture" [p. 402].

From Francis Bond, M.A. [*H.A.*]—

I have read with much interest Mr. Moore's reply to my remarks on the new edition of his book. I am afraid that I cannot much modify them. My remark, however, that "St. Germer can hardly have suggested transverse arches in the triforium" should be withdrawn. I should have said that Anglo-Norman architects had no need to borrow from St. Germer the rudimentary concealed flying-buttress; since it was but a development of the arches which crossed the triforium at Norwich, Chichester, and Durham. Plainly this was the case at Durham; the rudimentary flying-buttress is employed in the nave, the transverse arch in the choir; the former doubtless is derived from the latter, and not from St. Germer, or anywhere in the Ile de France.

The general argument of Mr. Moore's book I must continue to regard as illogical and unscientific, resting as it does on a definition of Gothic which states a false view of the main functions of the flying-buttress. As to minor points, Mr. Moore asks what would be the effect on the equilibrium of a pier if the vaulting were removed. To this it is obvious that no one answer can be given. In the first place, the pier might be short and massive, the clerestory wall thick, the pinnacle heavy, the flying-buttress light and nearly vertical: in such case the stability of the pier would not be affected by the removal of the vaulting. On the other hand, if the above conditions were reversed, the pier might be pushed inward. But that I admitted in my review; I did not say that a flying-buttress had no inward thrust at all; but that its thrust was slight, and much slighter in thirteenth than in twelfth century Gothic. What I maintained was that, in complete Gothic, the main function of the flying-buttress was to act as a stay; which is the reverse of Mr. Moore's position.

I was aware that the inner aisles of the choir of Le Mans have a triforium. I do not see how that helps the case. It merely leaves us with the anomaly that we are to regard the inner aisles as completely developed Gothic, while the central aisle is but incomplete Gothic.

The cylindrical piers of Paris are now stated to be Gothic, because their upper parts are compound. But the upper parts of the cylinders of Durham are compound; are we then to call Durham Gothic?

Mr. Moore wishes to know of vast stone churches of early date without aisles. One of the most important is the Cathedral of Angers, whose vault was commenced about 1140. Another is the Romanesque nave of Bordeaux Cathedral, and that of the Cathedral of Toulouse.

As to the constructive ability of the monastic orders, it is enough to say that they solved the great problem of the mediæval builder—viz. how to vault a basilican church—in three ways. One method, completely successful, is to be seen still at Cluny and Paray-le-Monial. Another is to be seen in the even finer domical churches of the district round Perigueux. The third is to be seen in such a nave as that of Vézelay or Durham. To the first two solutions the Gothic builders added nothing; to the third they merely added the pinnacle—the principle of which, however, was fully worked out in the Cluniac churches. Their credit, therefore, as inventors of construction is of the very humblest character.

As to the "logic" of Norman, I will refer Mr. Moore to the important papers by Mr. Bilson in the JOURNAL for 1899—March 11th and 25th, and April 15th. And if he will not hear St. Paul, Vitet, Brutails, Ramé, Spiers on the assumed Byzantine origin of St. Front, he should visit the Perigueux district himself. A personal inspection is more convincing than any amount of reading. As for the æsthetic value of an Ile de France exterior and interior, I am unrepentant still. Sunday week I spent at Amiens; more than ever I was struck with the tangle, to the eye inextricable and meaningless, of the south-east view of the exterior of Amiens. Internally, too, the feeling of instability was oppressive as ever: this, however, I will admit, would be felt much less if the windows had retained the opacity of their ancient glass. But these are matters of taste; one prefers stability, another lightness; there is no more to be said.

Notes on Documents relating to the Palaces of Versailles, Fontainebleau, and the Louvre, in the Department of MSS. in the British Museum.

From ANDREW OLIVER [*A.*]—

Amongst the miscellaneous collection of deeds and documents which are collected under the division of "Additional Charters" in the Department of MSS. in the British Museum, there will be found a few of some interest which relate to various works carried out by the artists employed at the time of the erection of the Palace of Versailles, or, as it is described, "le Chasteau de Versailles."

There are, in addition to these, two or three which relate to the Palace of Fontainebleau and the Louvre, and also others which refer to paintings, both at Versailles and the now destroyed Palace of St. Cloud. We need not, however, concern ourselves with these last mentioned, as they are not within the limits of these notes, which deal with the buildings and the artists employed.[*] The most important, as well as being the most numerous, belong to Versailles, and refer to certain works in and about the palace, and the park and gardens which are attached to it, the works consisting of figures, bas-reliefs, trophies, and sculpture, in connection with the grand staircase, in metal, and wood, and sculpture in wood for the gates; "vases for the colonnade of the little park," and "two pedestals," together with "thirteen vases" and "nine cassolettes" for the Trianon. The original documents are in French, and are written on small parchment sheets, which are signed by the parties interested. The earliest is dated 1671, and the latest bears the date 1688, thus covering a period of nearly twenty years.

The numbers, dates, and description of the MSS. are extracted from the Catalogue in the Department of MSS.

13386. Certificate of the acquittance from J. Houzeau (1624–1691) to Charles le Besgue, Seigneur de Majanville, Trésorier des Bastimens, for 600 *l.*[*] for stone figures at Versailles. 29 May 1671.

13387. Certificate of the acquittance from Philipe Caffier and Mathieu Lespagnandel (1610–1689), Royal sculptors, to the same Charles le Besgue for 1,000 *l.* for sculpture in wood for the gates of Versailles. 18 July 1671.

13388. Certificate of the acquittance from the same Philipe Cafier[†] to Sebastian François de la Planche, Trésorier des Bastimens, for 990 *l.* in part payment for sculptures in metal and wood for the grand staircase at Versailles. 28 December 1675.

13391. Certificate of the acquittance from Leonard Roger, sculptor to the king, to the same Charles le Besgue, for 200 *l.* for figures and bas-reliefs for Versailles. 25 July, 1671.

13392. Certificate of the acquittance from Gaspard Marsy and others (1628–1681), sculptor, to the king, to the same Charles le Besgue, for 2,000 *l.*, for trophies made for the Chasteau de Versailles. 15 February 1671.

13396. Certificate of the acquittance from Simon Maziere, sculptor, to Charles le Besgue, &c., for 600 *l.*, for the models, and marble, for two terminal figures for the little park of Versailles. 6 June 1686.

13397. Certificate of the acquittance from Ancelme Flaman (1647–1717), sculptor, to the same Charles le Besgue, for 300 *l.*, for two vases of white marble, for the colonnade of the little park of Versailles. Paris, 21 July 1686.

13398. Certificate of the acquittance from Simon Hurtrelle (1650–1724), sculptor to the king, to Charles Mannessile, Sieur de Hernjmont, Trésorier des Bastimens, for 200 *l.*, part payment for making two pedestals for the marble basins for the colonnade of the garden at Versailles. 19 July 1687.

13399. Certificate of the acquittance from Pierre Charles Dauphin de St. Marie, sculptor, to Charles le Besgue, &c., for 240 *l.*, part payment for sculpturing thirteen vases, and nine "cassolettes" of stone, for the Trianon. 19 December 1688.

DOCUMENT RELATING TO THE PALACE OF FONTAINEBLEAU.

13384. Certificate from François Bourdong, sculptor to the king, to Charles le Besgue, for 300 *l.* Tourn. for work done in the queen's apartments at Fontainebleau, in addition to 250 *l.* already received. 10 April 1644.

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[*] The dates here given are not in the original documents. They refer to the dates of the birth and death of the artists.

[*] The prices are in livres.

[†] Or Filippo Caffieri (1634-1716).

DOCUMENT RELATING TO THE LOUVRE.

13389. Certificate of the acquittance from Laurens Manier (1618–1700) to Charles le Besgue for 1,200 *l.*, for sculptures in stucco, for the grand gallery of the Louvre. 21 and 26 April 1671.

Cast Lead-work, Worstead Church, Norfolk.

From Frederic R. Farrow [*F.*]—

On looking through some back numbers of the Journal I came across an illustration on p. 531, Vol. VI., Third Series, entitled "Painted and Gilded Chancel Screen (15th century), in wood and cast lead, Worstead Church, Norfolk." Mr. Corlette in his essay does not do more than merely refer to this illustration, and it might therefore be supposed that the cast lead-work is of fifteenth-century date; this, however, is not the case, as when I was measuring this screen, some years ago, the old sexton at that time pointed out to me with great pride the cast lead ornaments, which were his handiwork. Several of the original crockets and finials having been broken away, he made moulds from those remaining, and cast replicas in lead, in his zeal for the restoration of the screen, and in consequence of his inability to attempt wood carving.

Some Norfolk screens have examples of cast work, but, as far as my observation goes, this is always in gesso; as, for example, at Loddon, where, by the way, the figure paintings on the panels are on vellum. I am inclined to think that the colour of the screen at Worstead has also been modified by the zeal of the old sexton, and that it is very different in tone from the original colour scheme. Many East Anglian screens have had their colour touched up by local amateurs, who matched the original colour plus dirt in their restoration.

LEGAL.

Quantity Surveyor's Fees: Right to Payment out of First Instalment of Contract Price or an equivalent thereof.

MELLOR *v.* BRITTON.

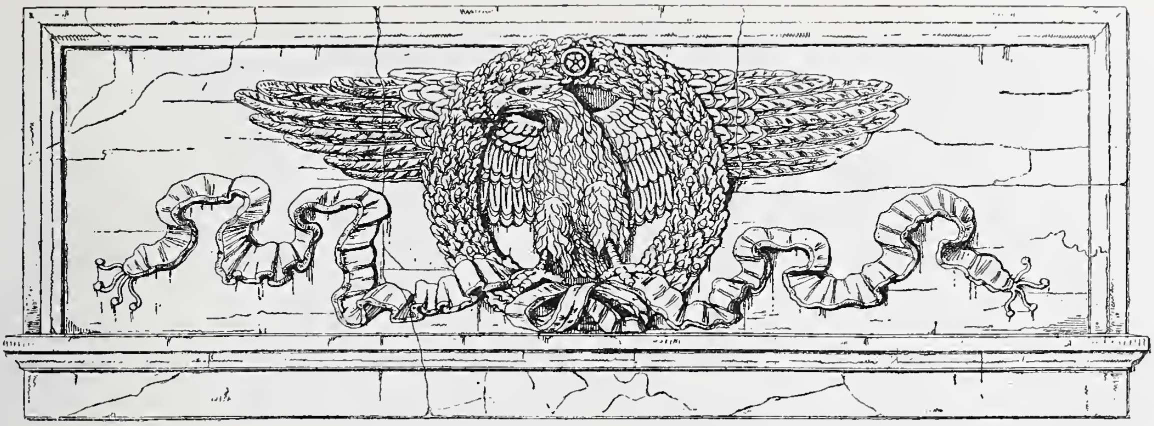
This was an action by a quantity surveyor against a builder to recover £411 for preparing quantities. The case was heard before Mr. Justice Bigham in the Queen's Bench Division. A Mr. Sanderson had entered into a building agreement with the freeholder of certain land at Chelsea to erect thereon flats, to be called Burton Court, which when completed were to be leased to Sanderson. He employed the plaintiff to prepare plans and to take out quantities, on which builders were invited to tender. The defendant was amongst the builders who tendered. His tender, amounting to £28,000, was accepted by the building owner. The defendant in the usual way included in his tender the amount of the plaintiff's charges, and in the ordinary course the plaintiff would have been paid by the defendant out of the first instalment of the contract price received by the defendant from the building owner; but when the first instalment became due it was not paid, and the defendant thereupon entered into an arrangement with Sanderson by which the defendant took over the latter's agreement with the freeholder, and released him from all claims, present and future, under his contract, but Sanderson was given an option to purchase the building when completed on paying the defendant the contract price and interest. Up to the present time the building had not been completed, and in these circumstances the defendant denied his liability to pay the plaintiff the amount of his charges.

Mr. Bailhache, for the plaintiff, said that the custom of the trade that the quantity surveyor should be paid by the builder out of the first instalment of the contract price, although the contract of employment in the first instance was with the building owner, had been judicially recognised (see North *v.* Bassett, 1892, 1 Q.B., 333). Here the defendant had not been paid in money by the building owner, but he had received an equivalent in kind, having taken over the whole adventure and given the building owner an absolute release.

Mr. W. H. Stevenson, for the defendant, contended that his client was not liable. The case was like Campbell *v.* Blyton (Hudson's *Building Contracts*, vol. ii. p. 105), where the building owner had given a mortgage to the builder, and Mr. Justice Wills there held that the builder was not liable to the quantity surveyor. The undertaking of the defendant was to pay out of a particular fund—namely, the first instalment—and that fund had not as yet come into existence.

Mr. Justice Bigham, in giving judgment on the 26th June, said that the plaintiff was entitled to judgment. In the first instance the plaintiff could call upon the building owner to pay his charges, but as soon as the latter had entered into a contract with a builder, and had put him in a position to pay by providing him with money, the building owner's liability to the plaintiff came to an end. Then what were the contractual relations between the plaintiff and the defendant? The defendant had undertaken to pay him as soon as he himself received his first instalment from the building owner. That placed on the defendant the obligation to get the first instalment. He was not bound to try and get blood out of a stone, and if he could not get payment from the building owner he was under no liability to the plaintiff; but if he could get the money or an equivalent he was liable. A difficulty arose in this case about the payment of the first instalment, but it was not an insurmountable difficulty, for having regard to the amount of work which had been done the building owner might have raised the money. If proper steps had been taken the building owner would have been able to pay. What happened was that the defendant for reasons of his own took from the building owner an out-and-out assignment of the agreement with the freeholder in full satisfaction of all the defendant's claims under the contract. The position was, therefore, that the defendant had chosen to accept, instead of cash, the assignment of the building agreement, carrying with it the benefit of all the work done up to that point (which far exceeded the plaintiff's claim) and also the possibility of future benefits. If the builder chose to vary his relations with the building owner he might do so, but not so as to prejudicially affect the claim of a third party who had nothing to do with the arrangement. There would be judgment for the amount claimed, with costs.

A stay of execution was applied for and refused.



MANCHESTER: SOME NOTES ON ITS DEVELOPMENT.

By Frank P. Oakley [*A.*].

A DESCRIPTION of Manchester in about the year 1800 is, of course, a necessary preface to a paper dealing with the development of the town during the nineteenth century. But this is not all that is required for a satisfactory starting-point. It is almost, if not quite as important to know—at any rate, in outline—something of the earlier history of the town. Manchester had at that time already become one of the largest and most important towns in the kingdom, and although its growth during the past hundred years has more than quadrupled its size, and completely changed its general appearance, yet its development during the period under consideration has in the main—at any rate as regards the central portion of the town—proceeded on lines derived from beginnings made long before A.D. 1800. Deansgate, for instance, is in its present form [fig. 7] about the most essentially modern street in Manchester, while in reality it is the oldest. It formed the direct connection between the old Roman station at Campfield and the later settlement on the banks of the Irk, and was in all probability part of the main Roman road from Chester through Manchester over Blackstone Edge into Yorkshire. William the Conqueror, not impossibly, passed along it in his sudden winter march from York to Chester in 1069, by which he finally crushed the last organised resistance to the Norman power. It is a curious fact, and worth at least passing notice, that whatever traffic has passed through Manchester from the earliest times to the present day has more or less followed the line of this road—that is, from east to west, or *vice versâ*. To-day the only train service through Manchester is that between Liverpool and Yorkshire. The railways coming to the town from north and south all run into termini. It was the same with the coach-roads, and the roads before coaches. Yet for all this time Manchester has been a place of no little importance. It has, in fact, always been a local centre, and is so still. But the town is, and always has been, situated off any main through route of traffic, and as a consequence casual visitors have been few, although the means of communication with surrounding places seem to have been good. This has probably had but little to do with the development of the town, though its effect might perhaps be traced in other ways; but it is a peculiarity, and as such worth noticing.

The earliest authentic date in the history of Manchester is the year 79 A.D., when Julius Agricola established a Roman station at the junction of the rivers Medlock and Irwell. This was to all intents and purposes the beginning of Manchester, but it is a reasonable supposition that some sort of town existed before the advent of the Romans. The site of this station is still known as Campfield, and is situated at the south end of modern Deansgate, about a mile to the south of the later settlement at the junction of the rivers Irk and Irwell, which afterwards became the centre of mediæval Manchester. It is said that the Romans established also a summer camp on the Irk. But, however this may be, at some time after their departure, in or about the year 425, the original settlement at Campfield was at any rate partly abandoned in favour of the more northerly position on the Irk. The migration was probably brought about by the incursions of the Danes—at whose hands, we know, Manchester, in common with the rest of the country, suffered severely—and the probable destruction of the old town by them. The new site was smaller, and, being practically made into an island by the construction of a moat or ditch joining the two rivers, was more easily capable of defence. It is not known if the moat was the work of the Romans, or formed when the later settlement was made. Its course is very plainly visible on the map of Manchester in 1800 [fig. 1], and in a rather less degree on that of 1900 [fig. 2], being marked by the line of Cateaton Street, Hanging Ditch, and Todd Street (originally Toad Lane). This settlement formed the nucleus of Manchester; and, if we consider Salford as part of Manchester, as for all practical purposes it is—at any rate as much as, or even more than, Southwark is part of London—it is from this centre that the town of Manchester has since expanded in all directions.

From Doomsday Book we learn that Mamcestre was at that time a manor, and that there were in it two churches—probably one at each of the above settlements—but their actual positions are uncertain. From this time onwards, until comparatively recent times, we hear very little of Manchester, though quite enough to justify the supposition that it was all the time a place of not inconsiderable importance. Thus in the reign of Edward I., Walter de Langton, Rector of Manchester, was appointed Bishop of Lichfield and Keeper of the Great Seal. In the same reign, William de Marcia, another Rector of Manchester, was Treasurer of England. In the reign of Edward III. many Flemish artisans settled in Manchester, and are said to have given a great impetus to the weaving industry, which was, however, undoubtedly established in the district before their arrival. The quality, weight, &c., of Manchester cottons (then probably woollens) were regulated by Act of Parliament in 1552. In 1538 Leland visited Manchester, and described the town as the "fairest, best buildid, quikkst, and most populus tounne of all Lancastreshire . . . and withoute the towne . . . yet be seene the dikes and foundations of Old Man Castel." He also refers to Salford as a "large suburbe to Manchestre." In 1540 Manchester received the doubtful privilege of being made a place of sanctuary. In the following year a special Act was passed transferring the privilege to Chester, for the reason that it was found prejudicial to "the great occupyings and good order" of Manchester, while Chester had "no such trade and merchandise, and has a strong gaol, mayor, and bailiffs." At the time of the national arming against the Armada, Manchester, which then had a population of about 10,000, was required to furnish 38 arquebusiers, 38 archers, and 144 pikemen. In 1642 Manchester, having declared for the Parliament, was unsuccessfully attacked by the Royalists under Lord Strange. The town itself was fortified the next year, but not further molested. The fortifications were dismantled about ten years later. In recognition of the part played by the town in support of the Parliament, Cromwell accorded it the franchise, and two members were consecutively returned to Parliament. The town was disfranchised at the Restoration, and remained unrepresented until the passing of the Reform Bill in 1832.

In the next century the town seems to have been rather decidedly Jacobite. Several prominent citizens were "out" in the '15, taken prisoners at Preston, and afterwards executed for treason. In the '45, Charles Edward entered the town unopposed with his army, was pro-

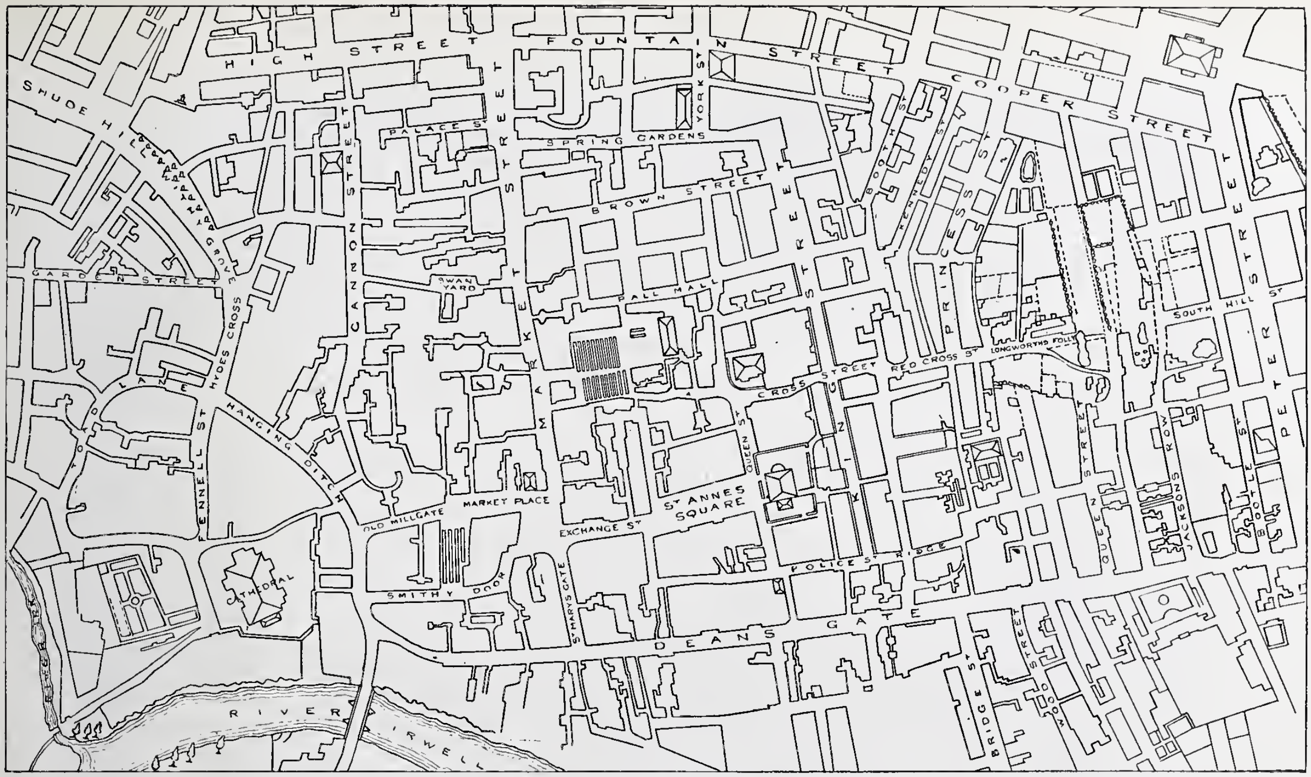


FIG. 1.—MANCHESTER IN 1800.

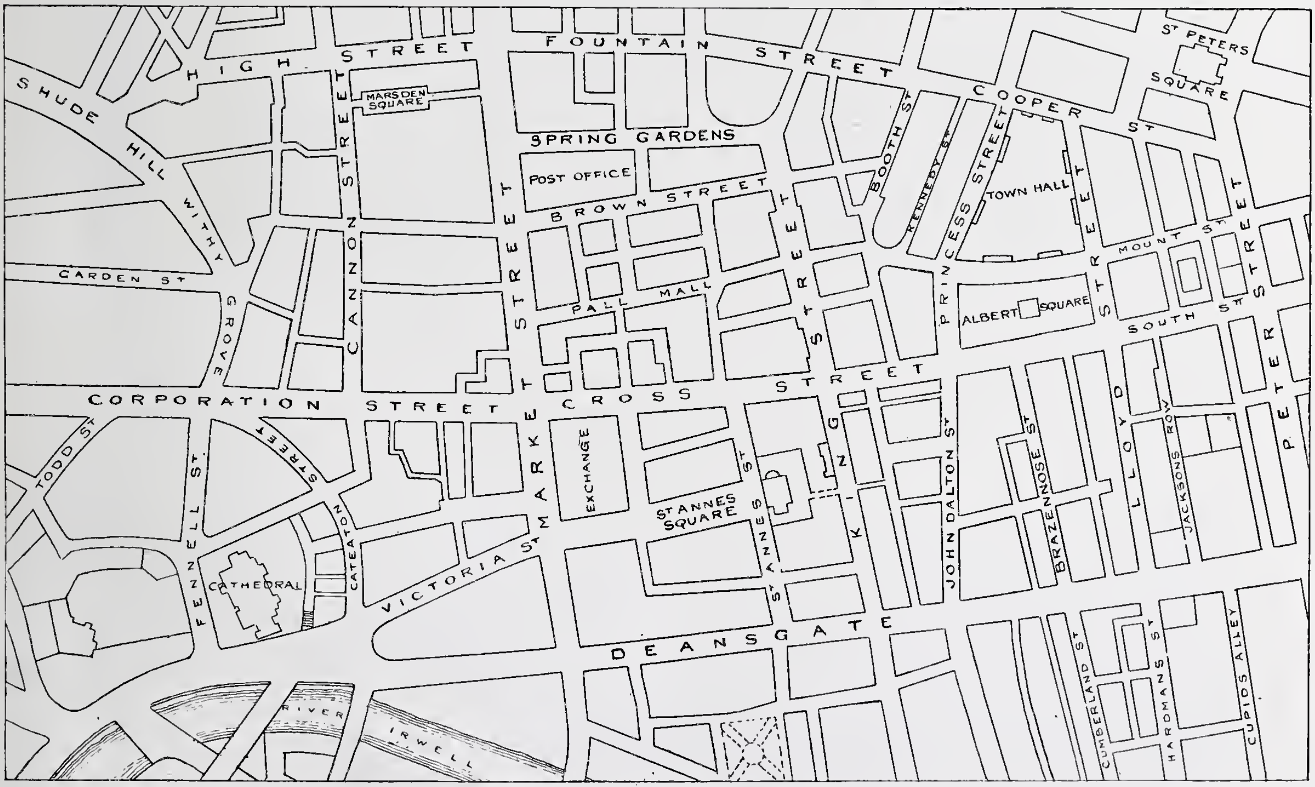


FIG. 2.—MANCHESTER IN 1900.

claimed King, and took up his abode for a short time at a house in Market Stead Lane. The Manchester Regiment—300 strong—was raised, and a levy of £5,000 made on the town.

During the remainder of the eighteenth century the town grew quietly and steadily in importance and size, its manufactures of all sorts increased rapidly, but most noticeably of all, perhaps, its means of communication with other parts developed and improved greatly—particularly communication by canal. At the close of the century Manchester was the centre of a system of canals by means of which merchandise could be received and distributed easily, cheaply, and it was no doubt then thought quickly, to all the most important towns of the country. The Bridgewater Canal—affording communication between Manchester and Liverpool—is well known as a Manchester undertaking, and, in addition to this, there were many others, considered in their day as triumphs of engineering skill, and occupying then much the same position that railways do now.

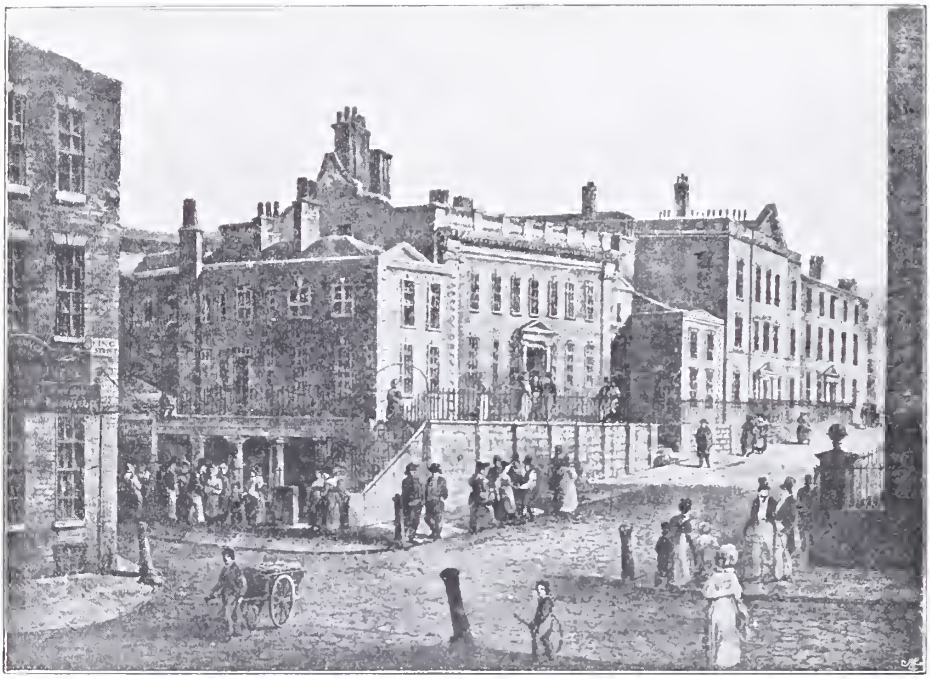


FIG. 3.—DR. WHITE'S HOUSE, KING STREET, MANCHESTER (1820).

Having now traced in outline the growth of Manchester from the earliest times to its position of being one of the most important towns in the country at the beginning of the nineteenth century, it remains to give a short description of the town as it then was, and to describe its development down to the present day. Books might, of course, be written on the subject, but all that can be attempted in the present Paper is to indicate quite briefly the main lines of development and change that have taken place, with occasional short descriptions of some of the more important new buildings. An examination of the two maps printed herewith will probably convey a better impression of the changes made in the town than many pages of description. The first one, of the central portion of the town about the year 1800, is a pretty accurate copy of a map in the writer's possession published in 1795. The second, of the town as at present, is not absolutely accurate, having been redrawn to the same scale

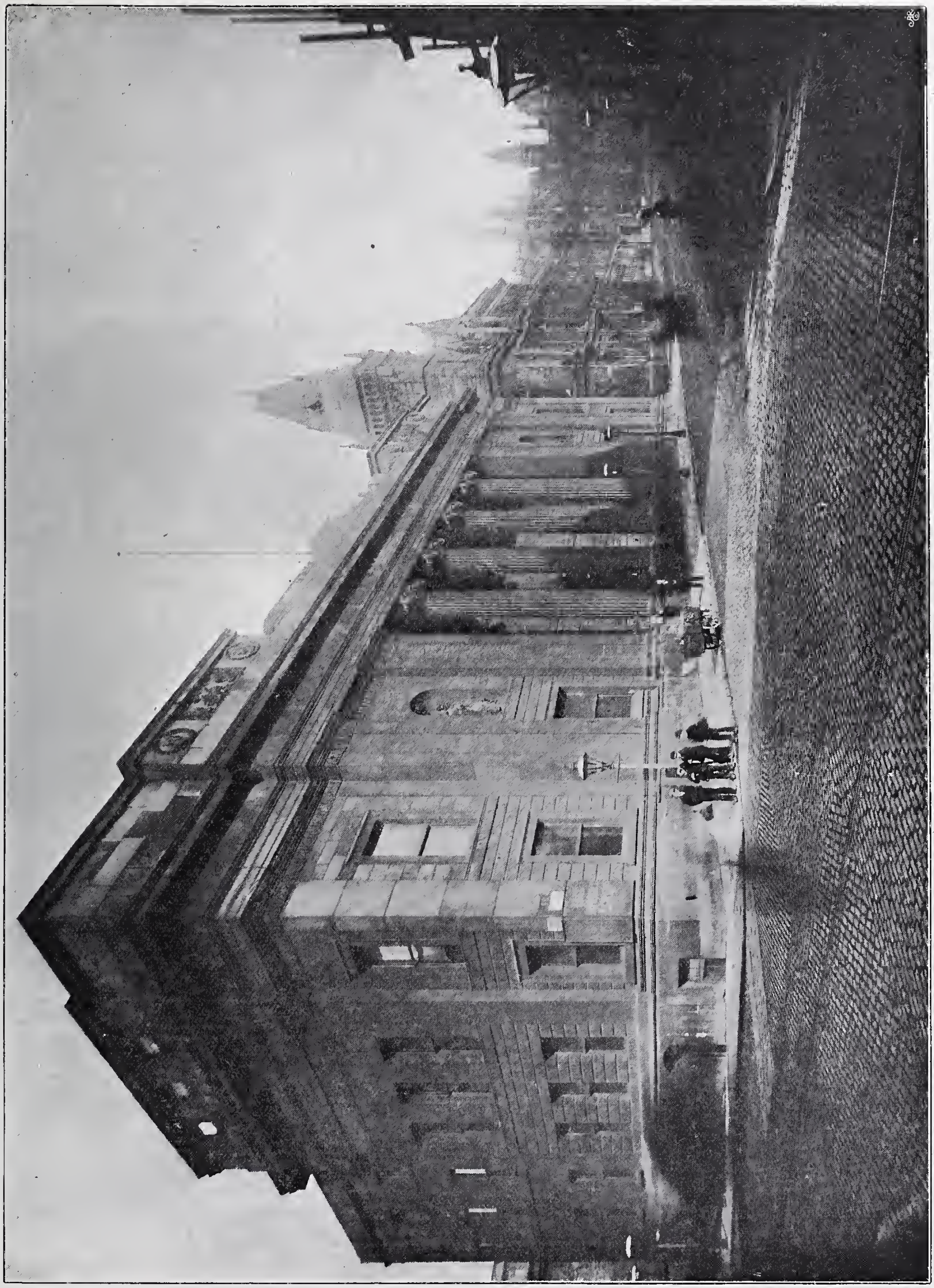


FIG. 4.—THE FREE REFERENCE LIBRARY.

J. Ambler, Photo., 5, Market Street, Manchester.

as the old one from a small scale Ordnance map, but is in the main correct, and shows properly the main streets. It will be at once seen that the main changes have consisted in the wholesale sweeping away of courts and alleys, and the widening and straightening of the main streets. Only a few new streets have been formed, such as Corporation Street, Victoria Street and the road between the Cathedral and the river, and Albert Square. Almost the whole of the other alterations, complete and extensive as they are, have consisted in remodelling and improving what previously existed. The maps, of course, only show a small portion of the town, but that the most central, oldest, and most interesting. The growth of the town in other directions has been for the most part simply a matter of expansion and not of rebuilding and alteration, and is of no special interest except for its extent, which statistics may describe, and for an occasional important building here and there. The two reproductions of old prints of the Exchange [fig. 5] and of Dr. White's house [fig. 3]—both published about 1820—compared with the two modern photographs of the Exchange and Market Street [fig. 6], and of the Free Reference Library [fig. 4], show very clearly the alterations that have been made on those two particular sites. The old prints and the modern photographs are in each case taken from approximately the same point of view. The same sort of alteration has taken place over almost the whole of the portion of the town included in the map, and that all within the last sixty or seventy years.

The population of Manchester and Salford in 1801 was 89,755. (It was 703,500 in 1891, and is now probably about 800,000.) At the time of the first census the town was crowded together, the main roads crooked and ill-paved, badly lighted—often indeed not lighted at all, as the saving of oil seems to have been a simple and favourite method of retrenchment—and full of narrow, crooked, and insanitary courts and alleys. But it must also have been singularly picturesque and interesting. There were still standing, in both Manchester and Salford, numbers—it is said whole streets—of ancient black and white half-timbered houses, some few of which still remain, and many more existed even only a few years since. Then there was "th' Owd Church"—now the Cathedral, standing on a rocky bank above the Irwell, and the ancient Salford Bridge just below. There were several open markets, a market cross, pillory, stocks, and pond and ducking-stool. Besides this, there was what was then the modern portion of the town, consisting of good comfortable brick dwelling-houses—many with gardens. There were several in Spring Gardens—one of which has only just disappeared—and in King Street, of which Dr. White's house [fig. 3] was probably a favourable specimen, and one still remains in use as a bank manager's residence.

Many of the then existing houses had the top floor arranged as one large room, lit by a long narrow window, for the accommodation of the hand looms then in use. Many houses thus planned are still to be seen in the surrounding districts.

One feels a natural regret at the disappearance of these local characteristics, but it has been inevitable. The Manchester of 1800 would have been an impossibility in 1900.

The town's Charter of Incorporation was granted in 1838, and it is from that date that the modern and systematic development of the town really begins. Before that time the government of the town was vested in a borough-reeve, two constables, and other officials. Under them, the growth of the town seems to have been almost entirely unregulated and haphazard. Their province was to keep order in the town rather than to regulate its growth. But a serious beginning was made in 1821, when an Act was obtained for the widening of Market Street and King Street, and the work was carried out. The year 1834 saw the completion of the great Market Street improvement, the work having cost, from first to last, some £233,000. The formation of Corporation Street was commenced in 1845.

The lord of the manor possessed and exercised many rights in the town, and on several

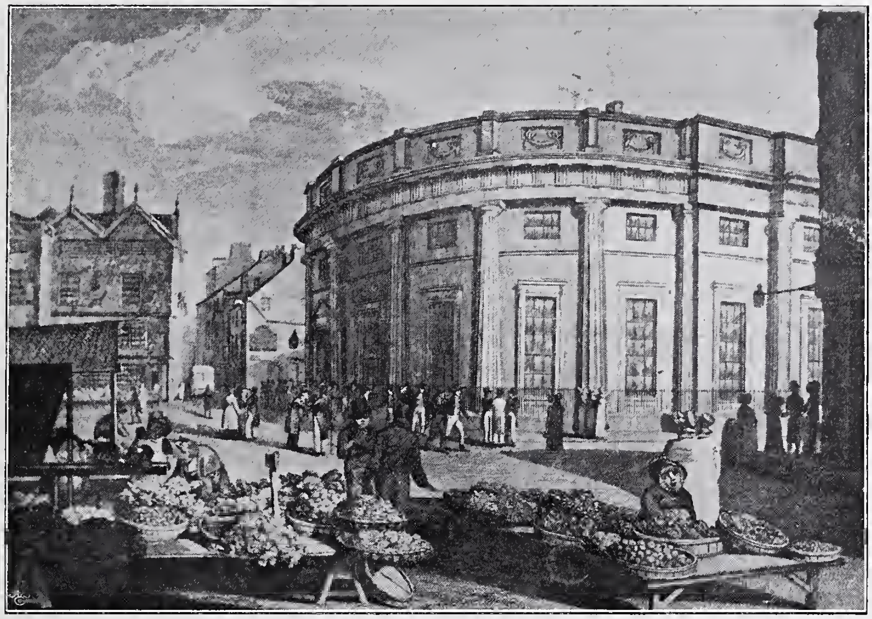
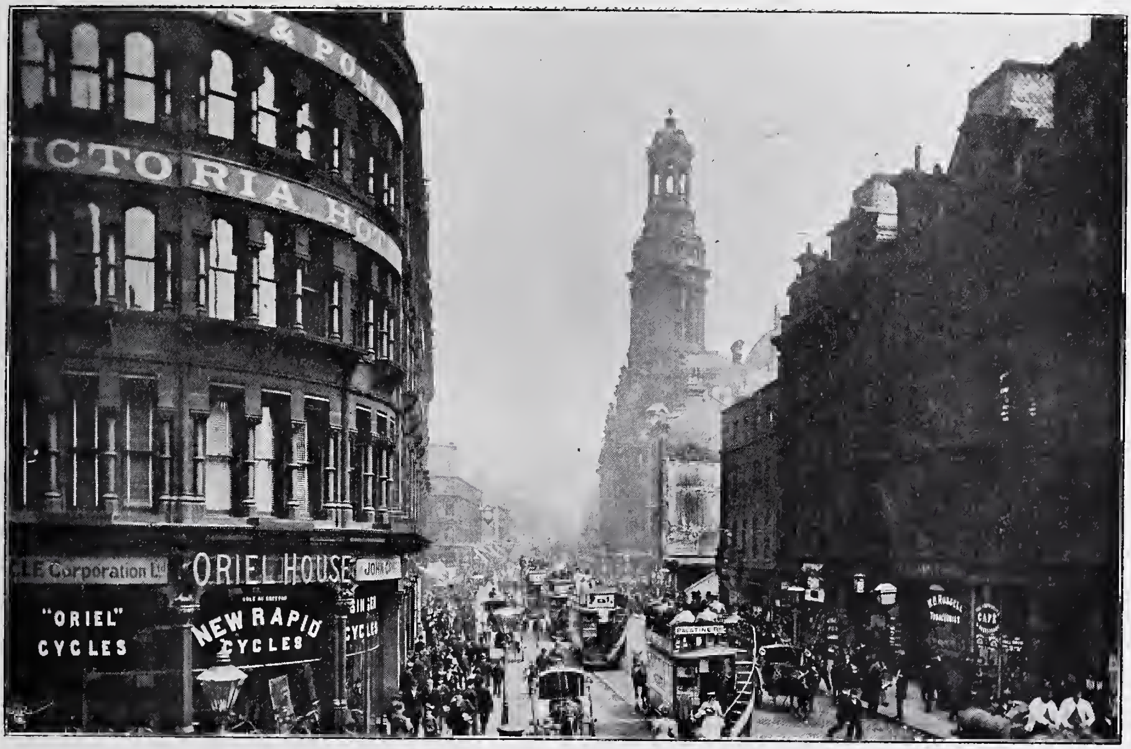


FIG. 5.—MANCHESTER EXCHANGE, 1820.



J Ambler. Photo., 5, Market Street, Manchester

FIG. 6.—MARKET STREET, SHOWING THE TOWER OF THE EXCHANGE.

occasions assisted in its advancement, though perhaps somewhat *de haut en bas*. In 1808 Sir Oswald Mosley offered to dispose of his manorial rights to the town authority for £90,000. That body, however, declined to give more than £70,000, and the project fell through. In 1845 negotiations were resumed, and the Corporation ultimately purchased the manorial rights for about £200,000.

From 1832 to 1861 the municipality paved, drained, and flagged 1,578 streets. Ninety miles of main and forty-nine miles of cross sewers, and some 13,000 syphon traps were laid in connection with them. Salford paved, drained, and sewered 232 streets from 1844 to 1860. Nearly five hundred cellars were closed as unfit for human habitation from 1854 to 1861. The public parks—Peel Park, Queen's Park, and Philip's Park—were opened in 1846. In 1853 Manchester obtained its charter as a city.

The consecutive alterations of the Royal Exchange are interesting as being indicative of the growth of the town. The original building was erected in 1729 by the then lord of the manor at his own expense. In 1809 a new building—that shown in the illustration fig. 5—was opened, but had to be enlarged in 1839, and again in 1848. In 1866 it was decided to again rebuild it, more land was acquired, and the present building was erected and opened in 1879. The illustrations show the old and the new buildings from almost the same point of view, and also what is even more interesting, the respective widths of Market Street in about 1820 and at the present day.

In 1859 Manchester was created an assize town, and the Assize Courts in Strangeways were built from designs by Mr. Alfred Waterhouse, R.A.

Space admits of but little more than the bare mention of other of the city's public buildings. In a Paper read before the Institute in 1877 Mr. Waterhouse himself described the new Town Hall then recently completed from his designs. It is a triangular building, standing on an area of about 8,648 square yards. Each of its three fronts is between 300 and 400 feet in length. It has 314 rooms, and the total cost, including site, furniture, &c., was £1,043,838 17*s.* 4*d.*—figures which testify to the growth of the city's resources.

The Owens College, another of Mr. Waterhouse's buildings, contains chemical, physical, and physiological laboratories and class-room appliances reputed to be the finest in the kingdom. The library contains more than 32,000 volumes, and attached to the institution is the splendid museum presented to the Corporation by the Natural History Society.

The Free Library, originally established by public subscription in 1850-51, was handed over to the Corporation on the adoption of the Free Libraries Act in 1852. In 1877, the building in which the books were then housed being found unsafe, the old Town Hall in King Street was taken over for the purpose. This building, founded in 1822, and designed on the model of the Erechtheum at Athens, was erected at a cost of £40,000. The rooms formerly the Council Chamber, Mayor's Parlour, &c., were adapted for the occupation of the reference library. The circulating portion of the Library is distributed among numerous branch buildings in various parts of the city.

The City Art Gallery, formerly known as the Royal Institution, in Mosley Street, was founded in 1825, and erected at a cost of £30,000. It is Greek in style and was designed by Mr. (afterwards Sir Charles) Barry. It was presented to the Corporation by the former proprietors, with the condition that £2,000 per annum should be spent in the purchase of pictures.

An interesting structure is the Free Trade Hall in Peter Street, erected from Mr. Edward Walters' designs, and opened in 1856. It is in the Lombardo-Venetian style, and cost £40,000. Its Grand Hall will accommodate nearly 5,000 persons. The façade in Peter Street is of massive stonework with elaborate carvings. The spandrels of the arches are richly sculp-

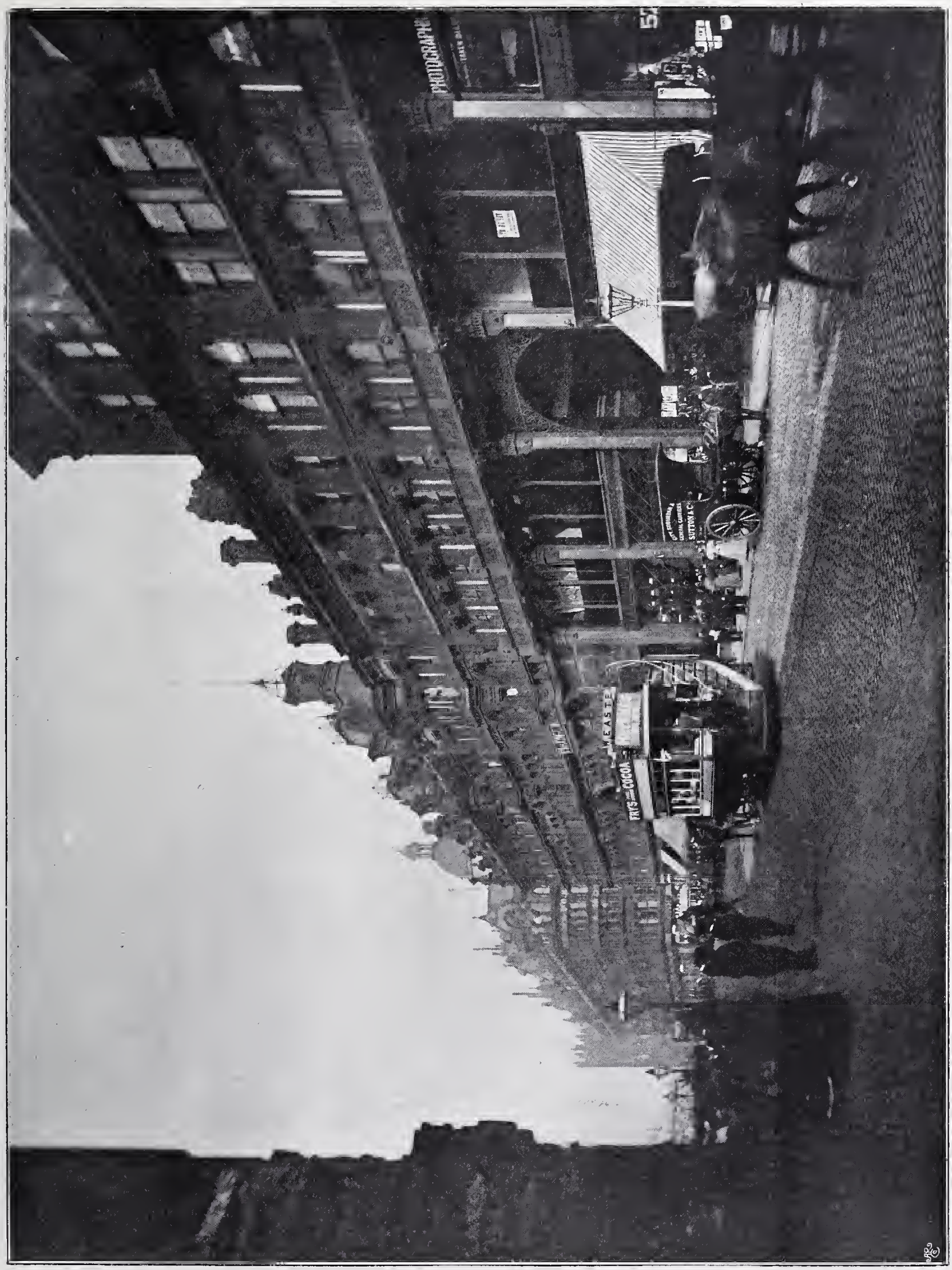
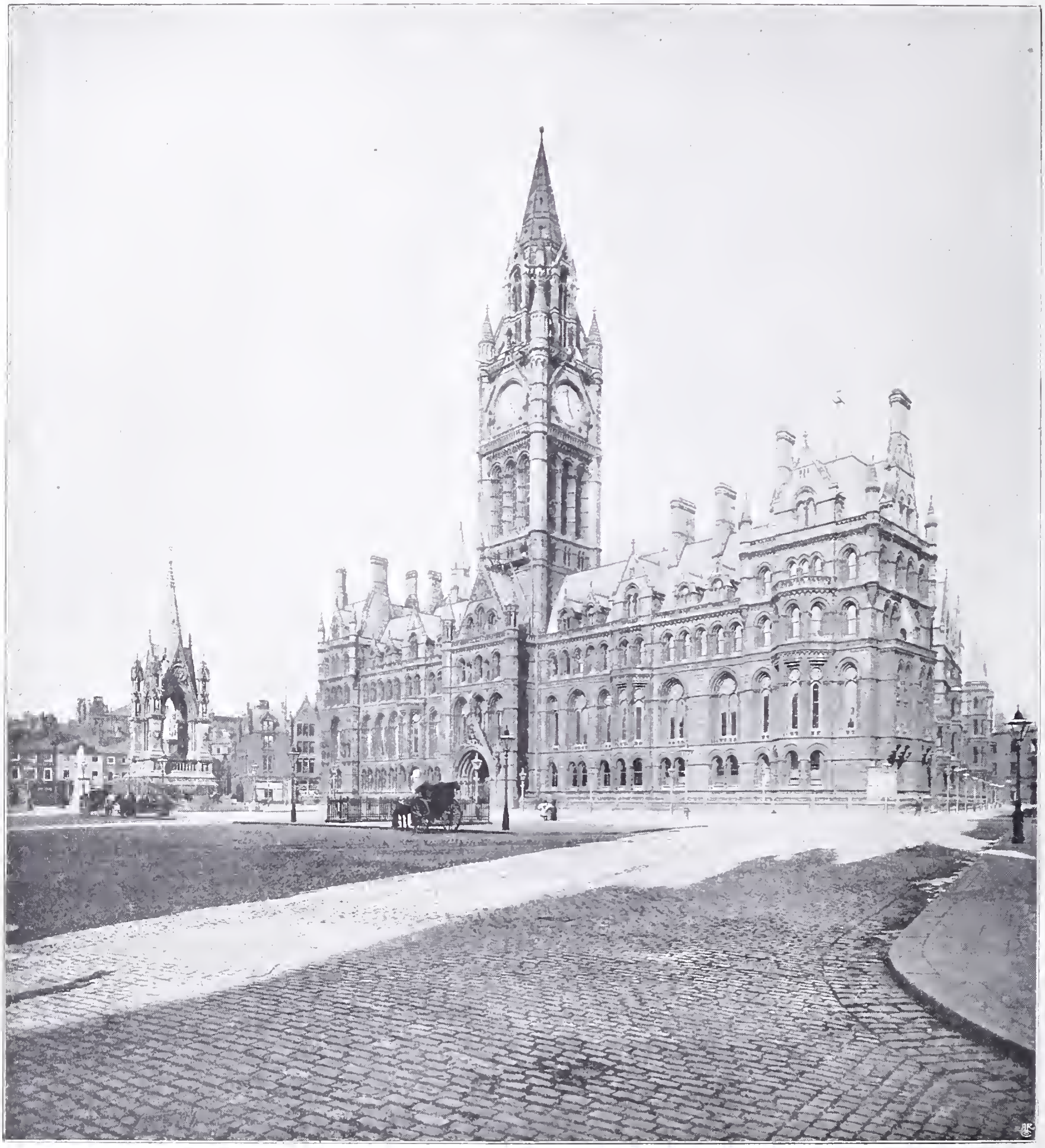


FIG. 7.—DEANSGATE, LOOKING NORTH TOWARDS THE CATHEDRAL.

J. Ambler, Photo., 5, Market Street, Manchester.

tured, displaying on shields the corporate arms of many of the chief towns in the district to which Manchester stands as the centre and nucleus.



J. Ambler, Photo., 5, Market Street, Manchester.

FIG. 8.—THE TOWN HALL, AND ALBERT SQUARE.

Mention should be made of the series of really fine churches built in and around Manchester by the late Mr. J. S. Crowther, author jointly with his then partner, Mr. H. Bowman, of *Churches of the Middle Ages*, published in 1845, and quite one of the best

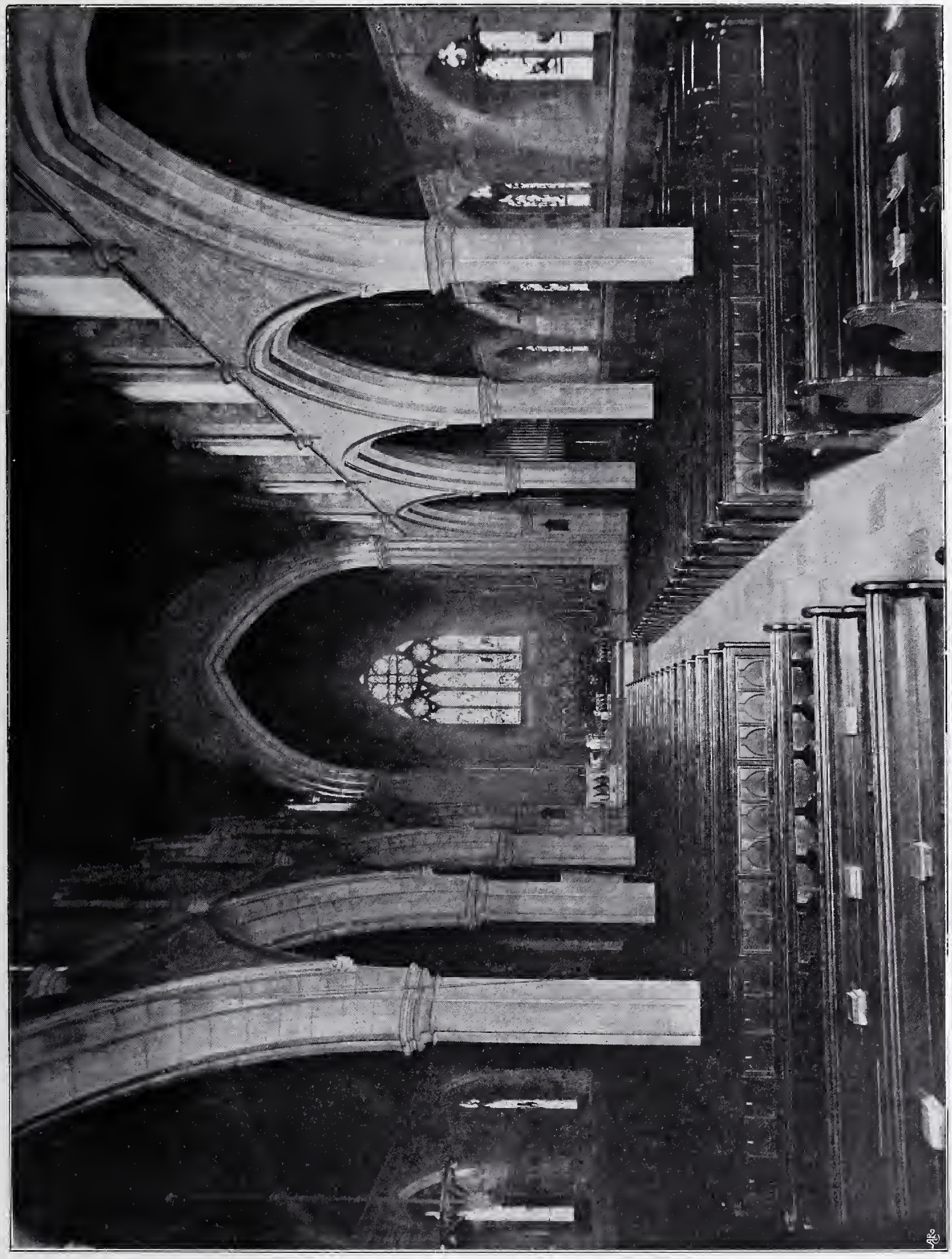


FIG. 9.—ST. MARY'S CHURCH, CRUMPSALL.

J. Ambler, Photo., 5, Market Street, Manchester.

of the many elaborate books published at the time of the Gothic revival. No particular originality can be claimed for these churches, but they are all thoroughly good, and show an intimate knowledge of the minutiæ of Gothic work in their author, and if not original are at least stately, well-proportioned, and most admirably detailed. St. Alban's, Cheetwood; St. Mary's, Crumpsall [see fig. 9]; St. Benedict's, Ardwick; and St. Mary's, Hulme, are the best known of his churches in Manchester. There are many others in the town and district. His most important work was the restoration of the Cathedral, carried out by him with conscientious care and with great success.

The new Rylands Library, in Deansgate, has been so recently specially described and illustrated in the Journal, that it need only be referred to here.

The Ship Canal, too, seems to call for mention. It can hardly be considered in itself an architectural development, but it is exercising a marked influence on the architectural development of the town. It has created a large traffic on the roads leading to the docks, and this has led to the necessity of widening and other improvements in many streets and districts. The new Whitworth Street—the latest important street development in Manchester—though nowhere near the docks, is directly attributable to the Canal, forming as it does a direct route from London Road to the Docks *via* Knott Mill.

Manchester is not yet a perfect city, but it undoubtedly lives and grows healthily, and surely, if slowly, improves. Compared now with what it was a hundred years ago, the town is convenience itself. Much remains to be done, and much is in hand. Its changes from time to time have been, and are, primarily utilitarian, as is but natural in a town that is first of all a business centre. But the value of the æsthetic side of its development has not been forgotten, and happily more and more attention is being paid to this value. The buildings of to-day show a marked improvement on those of say twenty years ago, and the improvement will doubtless continue. Granted the suppression of smoke—Manchester's worst feature—it is possible to look forward to a future of cleanliness and comparative beauty that may make Manchester a hundred years hence as different from the Manchester of to-day as present Manchester is from the town of 1800.

THE CHURCH OF ST. JOHN OF JERUSALEM (KNIGHTS HOSPITALLERS), CLERKENWELL.

By E. W. Hudson [*A.*]

AMONG the remains of early ecclesiastical architecture left to us in London none are of greater interest than those appertaining to the great Priory of the Knights of the Order of St. John of Jerusalem. They consist chiefly of an undercroft of the choir; for the choir and nave which constituted the upper church have, with the exception of a few minor features, completely disappeared, chiefly through the incendiary action of Wat Tyler's rabble and the spoliation by King Henry VIII. and Lord Protector Somerset. An ugly superstructure was raised upon the ruins in the reign of Queen Anne, to serve as one of the fifty new churches then provided for London, and to this act no doubt we owe the preservation of so interesting a relic of architecture of the period *circa* 1100–85.

In the execution of certain alterations in the forecourt here during the past two months an important archæological discovery has been made, in the uncovering of segments of ancient walling, forming part of a circle having a diameter, when complete, of about 65 feet, which, no doubt, was the dimension of a "Round" * nave of that figure, originally attached to the west wall of the choir, and opening therein nearly upon the same plan as obtained at St. Sepulchre's, Northampton, St. Sepulchre's, Cambridge, Little Maplestead, Essex, and other churches on the continent of Europe built by one of the two military orders—Hospitallers and Templars—which took special charge of the Holy Land and pilgrims thereto.

Although there is a description of the tower by Stowe and a view of the east end by Hollar, I believe no description of the nave exists; but it seems to have been generally believed that the church was large in dimension and cruciform in shape. It is so depicted in a fanciful restoration by Mr. H. W. Brewer, and more recently in what purports to be a bird's-eye view of London in 1543 from a drawing in the Bodleian Library by Van den Wyngrerde, but I understand St. John's is an entire interpolation by the publisher, and is not shown at all in the original.* Stowe describes the beauty of the tower, but not its position or shape; and it is hardly possible it could have been central, so that it was either at the west end or detached. I believe the evidence points to the latter notion, and that it was between the nave and north postern, the site of which is the present Jerusalem Passage. I do not know of any suggestion being offered that the nave was a

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* Northampton is the same diameter.

* The large bird's-eye views by Tapperell and Innes, 1849, and W. Newton, 1855, are also imaginative in respect of this church and priory.

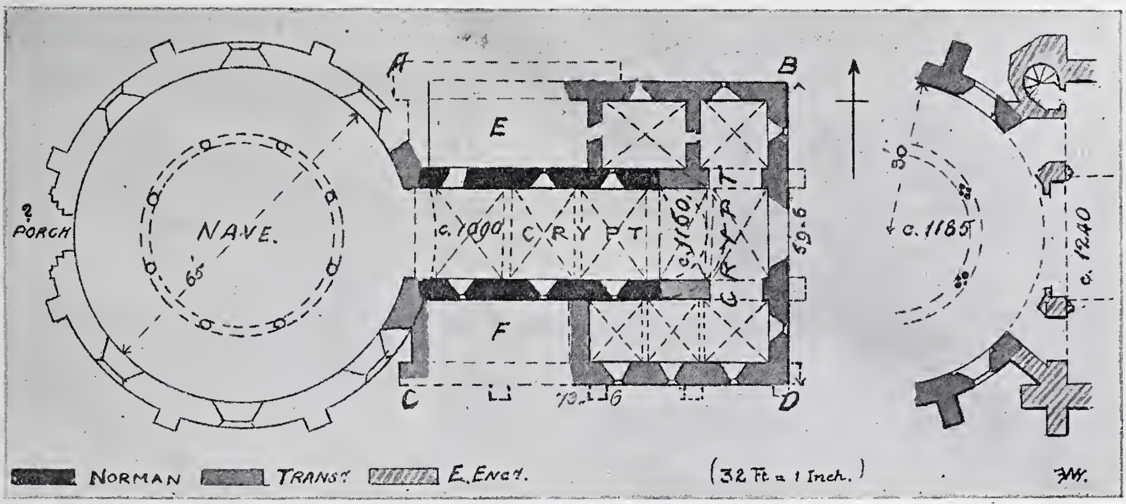

FIG. 1.

PARTIAL RESTORATION (NAVE), ST. JOHN'S PRIORY CHURCH, CLERKENWELL—*c.* 1090–1185. TEMPLE.

A, B, C, D = Eighteenth century (present) church on lines of ancient choir.
E = Later chapel or cell with modern north wall. F = Not excavated.

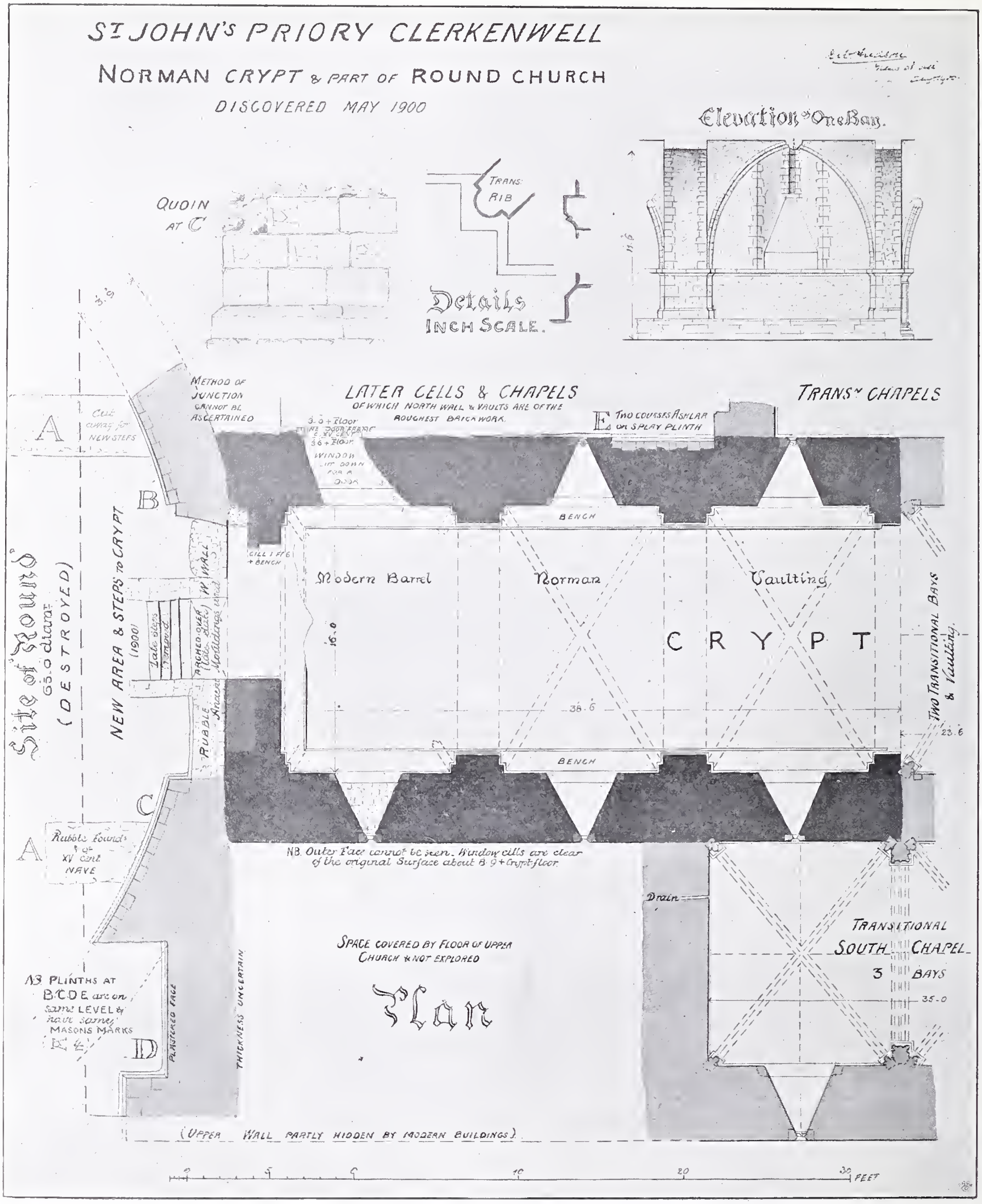
ST JOHN'S PRIORY CLERKENWELL
NORMAN CRYPT & PART OF ROUND CHURCH
DISCOVERED MAY 1900
QUOIN AT C
TRANS: RIB
Details
INCH SCALE.
Elevation of One Bay.
11.6
METHOD OF JUNCTION CANNOT BE ASCERTAINED
LATER CELLS & CHAPELS
OF WHICH NORTH WALL & VAULTS ARE OF THE ROUGHEST BRICKWORK.
3.0 + Floor
NE DOOR FRAME C. XV CENT
3.6 + Floor
WINDOW CUT DOWN FOR A DOOR
E
TWO COURSES ASHLAR ON SPLAY PLINTH
TRANSY CHAPELS
A
Cut away for NEW STEPS
B
CILL 1 FT 6 + BENCH
BENCH
Modern Barrel
Norman
Vaulting
CRYPT
16.0
38.6
23.6
TWO TRANSITIONAL BAYS & Vaulting
Site of Round
65.0 diam.
(DESTROYED)
NEW AREA & STEPS TO CRYPT
(1900)
Late steps removed
ARCHED OVER (late date)
W. WALL
RUBBLE
Ancient Mouldings used
C
A
Rubble founds of XV cent NAVE
NB. Outer Face cannot be seen. Window cills are clear of the original Surface about 8.9 + Crypt floor.
Drain
TRANSITIONAL SOUTH CHAPEL
3 BAYS
35.0
SPACE COVERED BY FLOOR OF UPPER CHURCH & NOT EXPLORED
Plan
AS PLINTHS AT B.C.D.E. are on same LEVEL & have same MASONS MARKS
D
PLASTERED FACE
THICKNESS UNCERTAIN
(UPPER WALL PARTLY HIDDEN BY MODERN BUILDINGS)
0
5
10
20
30
FEET

FIG. 2.

"Round;" and this view was not generally admitted on the discovery of the segment of it that remains, some antiquaries even denying that the Hospitallers ever used that form of temple. Although Dr. Freshfield bore the cost of search for further portions out in St. John's Square it was found that not only were there no traces of walling to complete the circle, but even the sand and gravel subsoil had been dug away. All but the 30 feet so attached to the choir had entirely disappeared, and that stood on the top of the stratum of sand and gravel. Reference to the plate, fig. 2, shows that even this segment was always broken into by the recessed entrance to the crypt. A few narrow, rough stone steps down (between wing-walls made of fragments of ancient stonework, both worked and rough), 4 feet wide, were *in situ*, as shown in fig. 3; but, being set centrally on the axis of the church, these could not be the original steps, for those centrally arranged would necessarily lead up to the choir floor, which was some four or five feet higher than the floor of the "Round." These steps may be as late as the seventeenth century, or have been put in after the destruction of the nave by Somerset, when Cardinal Pole patched up the remains and restored the services in Queen Mary's reign. The original way down was naturally at the side; the existing door-jamb in the north-west angle of the crypt corroborates this.

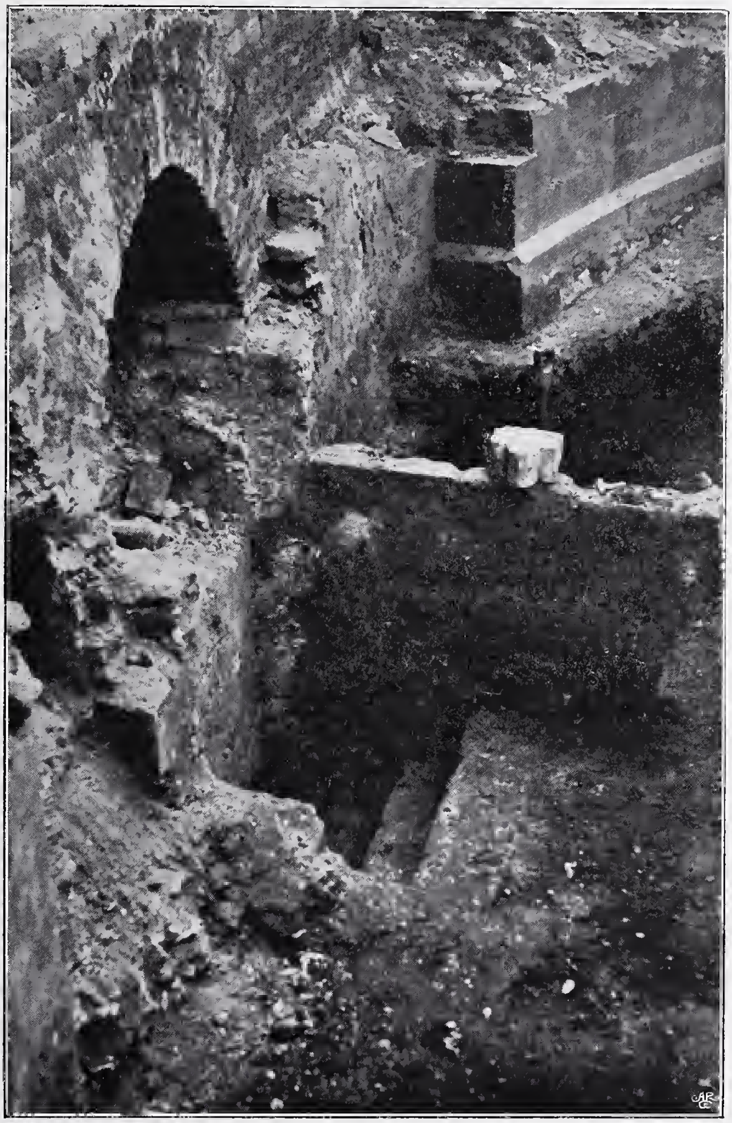

FIG. 3.

The floor of the "Round" is 8 feet 3 inches above that of the crypt. No bench existed next the wall, as at the Temple, but a splayed plinth course, 6 inches high, ran round it. On top of this are three to four courses of well-dressed ashlar, each rising about $6\frac{3}{4}$ inches and averaging about 11 inches on face (see detail, fig. 2), the thickness with the rubble backing being about 3 feet 9 inches, which is the same as at the Temple Church. The stone is Reigate or similar formation and in excellent condition, masons' marks being as clear as when cut. The one resembling a capital ◁ is well known in Syria and Switzerland, but, I believe, is not common in England. Both the masonry and the 3 feet of rubble concrete on which it stands are excessively hard and homogeneous, entirely differing from such jerry-work as the "double-skin and filling" construction found, *e.g.*, in the tower of St. John's, Chester. It is no wonder blasting was required for Somerset's destructive operations if the tower was equally well built. The "Round" was evidently much later in date than the western part of the crypt, its material and workmanship sounder and neater, and it is doubtless part of the church consecrated by Heraclius in 1185, three bays of the crypt being to all appearance a pre-existing chapel or cell, partly sunk below the surface, and probably several years old when Bliset acquired the site for the establishment of this priory, if he did so, as early as 1100.* Firestone is used in the Norman and Transitional work of the crypt; it shows plainly diagonal dressing, and presents there the bleached appearance due to long exposure. The narrow windows, which still retain an iron grille, but no provision for glazing, once opened into the outer air, but were afterwards cut off from it by the wide and overspanning superstructure. Whether this little Norman chapel had an upper story which the Knights connected with their "Round" nave, or whether they added this story (as some pier bases yet visible would suggest), is doubtful; but I have no doubt, from mouldings found in excavating for the new area steps, the widened choir was Transitional. The plate, fig. 2, does not show beyond the junction of the Norman with the Transition crypt, but the dotted lines on the small plan, fig. 1, show the position of the extensions, and for the sake of comparison the intersection of "Round" and choir at the Temple Church; but I adopt for St. John's the arrangement of eight columns, as at Northampton and Cambridge, in the restoration indicated, which I think clearly shows that one more is added to the number of round churches in England, making a known total of six†—four extant and two destroyed, viz. this of St. John and the earlier one built by the Templars in Holborn (between Chancery Lane and Southampton Row), of which no traces now remain. St. John's and the Temple have both passed through the period of narrow choir without aisles, but evidently St. John's was first by many years to have its choir widened from 17 to 52 feet, subsequently followed in the sister church by widening from 35 feet to 60 feet in 1240. The choir at Little Maplestead was never widened.

Yet another change passed over St. John's by the substitution of a rectangular nave for the "Round," which probably was destroyed in the great fire of 1381. In searching for the remainder of the "Round," foundations were uncovered passing across it in parallel lines 22 feet apart going west, which no doubt once carried piers of a later nave, which, if tradition can be trusted, was more than 200 feet long, and, allowing 11 feet for each aisle, would give nearly 50 feet as width. These foundations, being only 3 feet 6 inches thick, could not have carried crossing and tower piers. In the photo, fig. 4, the stooping figure is standing upon them where they abut upon the segmental masonry.

The straight wall forming the west end of the south aisle of the choir has also been uncovered as far as modern buildings admit, but enough to see a large portion of the buttress at the corner of the south wall, with the splayed base and the broken edge of the circular wall [see fig. 5].* An acute angle is formed by the intersection with the outside face of the wall of the "Round," and it will be noticed that the splayed wall adopted at the Temple Church for the purpose of an

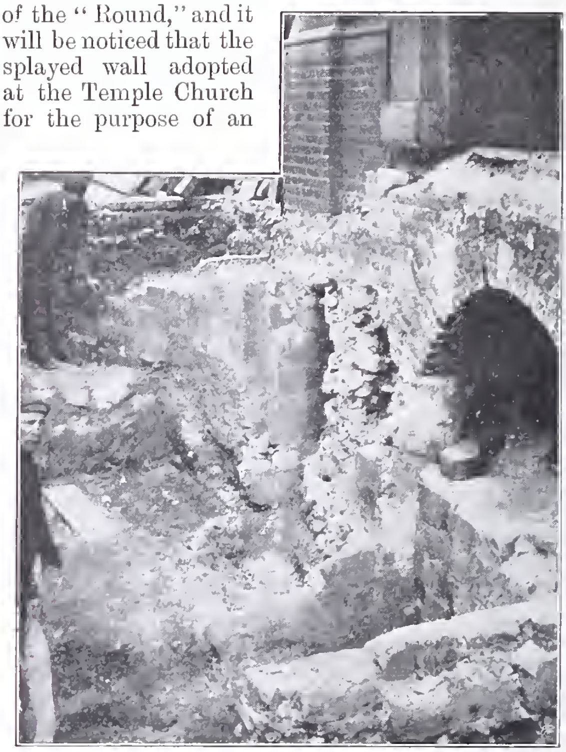

FIG. 4.

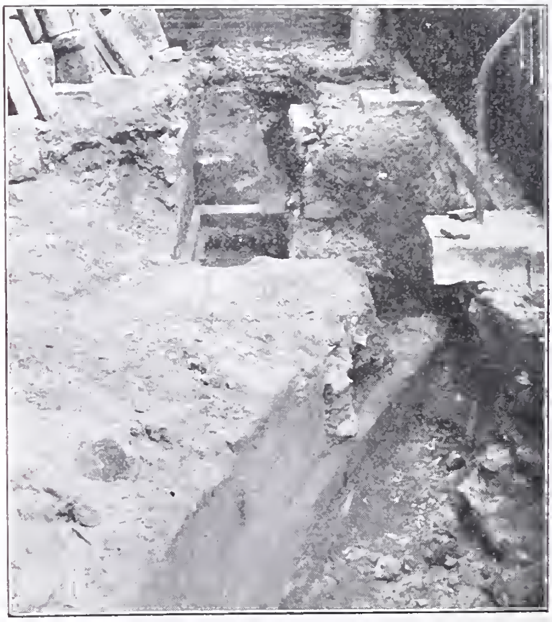

FIG. 5.

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* A view of the interior of the crypt, from a drawing by Mr. W. Monk, is given in the *Builder*, 13th October 1894.

† Or eight, including Aslackby and Temple Bruer, now destroyed; and probably Bristol, Canterbury, Dover, and Warwick may have been "Rounds" also.

* The outer face of this bay above the splayed plinth is of rubble neatly plastered; the buttress is ashlar.

opening from the choir aisle has not been used here. So far no indications have appeared of any opening between the known choir aisles and the probable aisles of a later rectangular nave, though such an opening may have existed at a higher level. Reliable evidence of the existence of foundations of outer walls of nave aisles is also wanting at present.

It is hoped that the requirements of the Building Act will not be insisted on in regard to the width of the new steps down from the street level, so that all that is left of the circular walling may be exposed and preserved. St. John's has the advantage of a zealous churchwarden, whose antiquarian attainments and love for the fabric are such that not a single item of interest or particle of work bearing upon the history of the establishment is likely to be overlooked, and a collection of worked and carved stone and other relics has been got together. I am much indebted to this gentleman, Mr. H. W. Fincham, for help in the inquiries I have prosecuted in the matter, and of which I am here unable by exigencies of space to give more than a short account of the latest discovery. The photographic reproductions of the walling and of Norman details [fig. 6] found worked into later masonry are in most cases from Mr. Fincham's negatives.

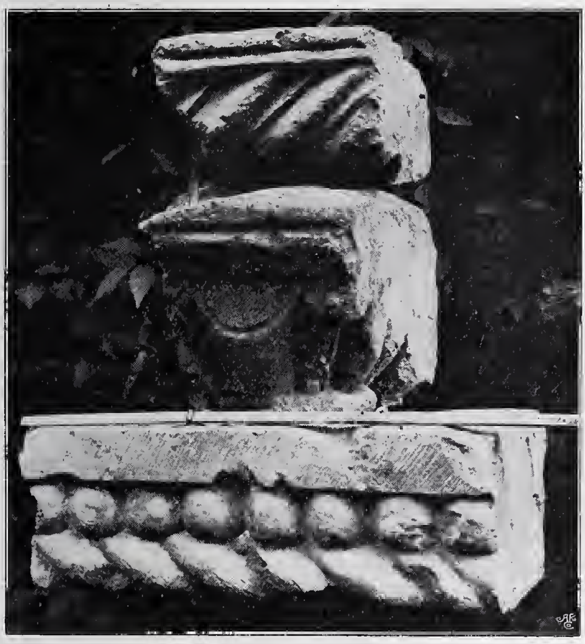


FIG. 6.

As an early example of vaulting the crypt is unique in London, and I have already drawn the attention of students to it in the JOURNAL (Vol. VI. p. 322) as a link of great importance in the study of the subject which has not received the attention of which it is worthy. To do it justice would require a separate paper.

INCORP. 1837 1887

9, CONDUIT STREET, LONDON, W., *25th Aug.* 1900.

CHRONICLE.

THE FIFTH INTERNATIONAL CONGRESS OF ARCHITECTS. PARIS, 1900.

Report of the Secretary of the Royal Institute.

The Fifth International Congress of Architects took place at Paris during the week beginning Monday 30th July. Professor G. Baldwin Brown and the Secretary represented the Institute, and Messrs. H. L. Florence and R. Shekleton Balfour the Architectural Association.

The first meeting was held at 9 30 on the morning of the 30th July, at the Hemicycle of the Ecole des Beaux-Arts, where, indeed, all the meetings save the last took place. A considerable number of foreign architects assembled in the vestibule, and the first efforts of the Paris Committee of Organisation were directed towards making these acquainted with one another. This gathering together of representatives of so many different countries, from Sweden to Mexico, was not the least interesting feature of a most interesting week. Several Hon. Corr. Members of the Institute outside of France were present, most of whose names will appear in the course of this report. At an informal luncheon after the first meeting no less than ten Hon. Corr. Members were counted. To return, however, to the business of the first meeting, a bureau or general committee was constituted as follows:

1. Président: M. Alfred Normand (de l'Institut) [*Hon. Corr. M.*]; Vice-Présidents: MM. O. Courtois-Suffit, Frantz Blondel, Charles Lucas [*Hon. Corr. M.*]; Secrétaire-Général: Maurice Poupinel; Secrétaires: Georges Roussi, Alfred Newnham, Henry Pucey; Trésorier: Charles Bartaumieux.

2. Vice-Présidents d'Honneur: M. Joseph Stübben [*Hon. Corr. M.*], pour l'Allemagne; M. Otto Wagner [*Hon. Corr. M.*], pour l'Autriche; M. Valère Dumortier [*Hon Corr. M.*], pour la Belgique; M. E. Repullès y Vargas, pour l'Espagne; M. le Professeur D. Luis Salazar, pour les Etats-Unis mexicains; M. Van Brunt, pour les Etats-Unis de l'Amérique du Nord; M. le Professor Baldwin Brown [*H.A.*], pour la Grande-Bretagne; M. Baumgarten, pour la Hongrie; M. Cannizaro, pour l'Italie; M. Cuypers [*Hon. Corr. M.*], pour les Pays-Bas; M. Paul de Suzor [*Hon. Corr. M.*], pour la Russie; M. Clason [*Hon. Corr. M.*] pour la Suède.

3. Secrétaires généraux honoraires : M. Bohnstedt, pour l'Allemagne ; M. Maukels, pour la Belgique ; M. Urioste y Velada, pour l'Espagne ; M. Totten, pour les Etats-Unis d'Amérique ; M. Grimm, pour la Russie ; M. Lallastedt, pour la Suède ; M. W. J. Locke, pour la Grande-Bretagne.

After which the meeting was adjourned.

In the afternoon, at 2 o'clock, the attention of the Congress was directed to an exhibition of drawings, got together under the direction of the Ministre du Commerce et de l'Industrie, of architects of the last 140 years. They were admirably hung by MM. Charles Lucas and Gaston Daunay.

The afternoon sitting was occupied by a Paper by M. Georges Harmand, on "Copyright in Architectural works." M. le Comte de Suzor [*Hon. Corr. M.*], of St. Petersburg, was in the chair. The result of the Meeting was the following unanimous resolution :—

"The Congress, in accordance with the resolutions passed at the first International Congress on Artistic Copyright, held at Paris in 1878, at the three last International Congresses of Architects, held at Paris in 1878, 1889, and Brussels in 1897, and at the various congresses of the International Literary and Artistic Association, held in many cities from 1887 to 1900, which tend to grant to works of architecture the same protection as to works of painting, sculpture, and the other arts of design ;

"Considering that architectural designs, comprising plans, elevations, sections, details of exterior and interior portions of buildings, of decoration, &c., constitute the original of the Architectural Work, and that the constructed edifice is only the reproduction thereof ;

"Considering that the Architectural Work, like the work of painters and sculptors, has a right to legal protection, irrespective of the author or his artistic merit, when it presents a character of originality which gives it individuality ;

"This Congress confirms the resolution that, in all legislations and international conventions, architects should enjoy the same copyright for their works as is granted to painters, sculptors, and other artists, and regrets that the 'Acte de Paris, 1896,' has not been able, by reason of the legislation of two of the countries (Germany and Great Britain) belonging to the Berne Convention, to grant to architects complete and uniform protection throughout the extent of the Union, and further desires that this protection be completely realised in the approaching revision of the Berne Convention."

In the evening a pleasant conversazione was held at the new Palais d'Orsay, which was attended by some 150 persons.

The next day, Tuesday, was occupied with a charmingly-arranged excursion to Chantilly, the château which the late Duc d'Aumale filled with treasures of art and presented to the French Nation under the name of the Musée Condé. Monsieur Daumet [*Hon. Corr. M.*], the architect of the new portions of the château, conducted the party of 250 through the building, and afterwards, at the Hôtel du Grand Condé, where refreshments were provided, the health of the Master, proposed by M. de Suzor, was drunk amid a scene of great enthusiasm.

The sitting of Wednesday morning, under the chairmanship of Herr Stübben [*Hon. Corr. M.*], of Cologne, was devoted to the discussion of "Architectural Education." Monsieur J. J. Pillet (Paris), Professor Otzen [*Hon. Corr. M.*], of Berlin, and Mrs. Frank Fuller, Architect, of Chicago, presented communications. Discussion of the subject was continued at the afternoon meeting, M. Valère Dumortier [*Hon. Corr. M.*], of Brussels, in the chair, and finally the following resolution was passed :—

"That as to superior education, the higher study of architecture receive, in a liberal sense, the greatest possible development in every country."

On Thursday morning, Mijnheer Cuypers [*Hon. Corr. M.*], of Amsterdam, in the chair, "The Preservation of Ancient Monuments" came under discussion. Mijnheer Cuypers, Herr Bohnstedt (of Minden), and Baron Geymüller [*Hon. Corr. M.*] (of Baden-Baden) spoke on the subject, the latter referring in terms of high praise to the two Institute publications. The resolution passed was as follows :—

"That in all architectural schools of every degree, place be given to the study, no matter how summary, of the monuments of the past, and to the means of guarding them from destruction ; leaving the care of their preservation or their restoration, and works necessary thereto, to special commissions."

At the meeting on Thursday afternoon the chair was taken by Señor Repullès y Vargas, of Madrid. Two subjects were discussed. The first was "*Le titre d'Architecte dans divers pays,*" which is practically the same as "Architects' Registration," and the discussion resulted in the following resolution :—

"That Governments take measures to protect and ensure respect for the title of 'Architect,' by reserving it for the future, and without retroactive effect, to architects provided with a proper certificate, by forbidding others to use it, and by putting it within the reach of all, by means of the diffusion of architectural education."

The other subject was "Artisans' Dwellings," as to which communications were made by M. Lucas [*Hon. Corr. M.*], of Paris, M. le Cœur, of Rouen, M. de Morsier, of Geneva, and M. Maukels, of Brussels.

At the request of the Bureau, the Secretary of the Institute gave a brief verbal account of the Congress held in London from the 18th to the 23rd June.

On Friday morning, under the chairmanship of Mr. H. L. Florence, Messrs. Ducloux (France) and W. Jenney (Chicago) read communications on "Steel Construction," and Mr. G. D. Totten (Washington) read a paper, illustrated by diagrams, on "Tall Buildings in the United States."

The afternoon of Friday was devoted to a private function of the Société Centrale des Architectes Français, to which the foreign delegates were invited. This was the exceedingly interesting annual distribution of *récompenses*. Not only were medals, gold, silver, and bronze, awarded to various architects for meritorious buildings erected and for services rendered to the Society and the general interests of the profession, but to students, to trusted chief assistants, to clerks of works, to honourable contractors, to builders' foremen, masons, fitters, and other artisans. The Société Centrale is to be congratulated on the successful effort it is making to make its influence felt through the whole of the building trade in France.

The last meeting of the Congress, M. A. Normand [*Hon. Corr. M.*], President, in the chair, was held on Saturday morning at 9 A.M., at the Palais des Congrès in the Exhibition. The following general resolution was passed:—

"That the delegates of the various Governments represented at the Congress take steps to approach their respective Governments with a view to carrying into effect the various resolutions passed by the Congress." It was further resolved that the next, the sixth, International Congress of Architects be held at Madrid in the Spring of the year 1903.

The banquet of the Congress was held in the evening at the Hôtel Continental, and was attended by nearly two hundred persons. The President called upon the Secretary of the Royal Institute, among several other speakers, to speak on behalf of the Institute. The Secretary, on behalf of the Institute and the British delegates, thanked the French architects for their kind welcome, and took the opportunity of publicly expressing the thanks of the Institute to MM. Bouvard and Ch. Lucas for the great pains they had been at to form the fine collection of drawings which illustrated Monsieur Lucas's Paper on the Buildings of the Paris Exhibition, read before the Institute last session.

Members of the Congress had been invited to a reception by the Municipality of Paris at the Hôtel de Ville, and to an afternoon garden-party at the Elysée by the President of the Republic; but owing to the assassination of the late King of Italy both these official entertainments were countermanded.

Besides the excursion to Chantilly, visits were made to the Sorbonne (members being conducted over the building by the architect to the edifice), the magnificent new Gare d'Orléans on the Quai d'Orsai, and to various special features of the Exhibition,

The Fifth International Congress of Architects, Paris 1900, has been completely successful from the professional as well as from the social point of view. By way of comment, however, upon the comparison that is so often drawn between the different positions of architects in England and in France, it is a matter of some gratification to have noticed that the Congress lately held in London attracted at least as much public attention in England, through the press and the interest of highly-placed public men, as the International Congress in Paris has done in France.

The following are abstracts of the communications presented to the Congress on "The Teaching of Architecture" and "The Preservation of Ancient Monuments":—

L'ENSEIGNEMENT DE L'ARCHITECTURE.

PROJET D'ORGANISATION DE L'ENSEIGNEMENT DE L'ARCHITECTURE DANS UN GRAND PAYS, par J.-J. PILLET, architecte, professeur à l'École nationale des Beaux-Arts.

Résumé.—L'auteur suppose qu'une grande nation de quarante millions d'habitants, après des tâtonnements nombreux, a fini par réaliser chez elle l'organisation qu'il propose; il la décrira en la comparant à l'ancien état de choses, et ne visera aucune doctrine d'art; il ne veut s'occuper exclusivement que des questions d'organisation, soit administrative, soit pédagogique.

Le rapport se divise en quatre parties:

I. *Étude de la nation, de ses ressources, de ses besoins.*—L'enseignement dans la métropole; les ressources intellectuelles, artistiques, techniques; la statistique de la profession du bâtiment.

II. *Les Écoles secondaires d'architecture.* — Écoles régionales des beaux-arts; écoles secondaires d'architecture; phases de création d'une école secondaire d'architecture; enquêtes, décret, règlement d'administration et de discipline; contrôle des études, programme; budget, recrutement des professeurs, inspection, avancement.

III. *École des hautes études architecturales.*—Admissions, entrées de droit, entrées au concours, programme des épreuves d'admission, enseignement intérieur: 1° scientifique, 2° technique, 3° artistique. Rapports avec les ateliers extérieurs, les écoles secondaires.

IV. *Cours complémentaires pratiques.*—Leur création due à l'initiative de l'État, des villas, de sociétés d'architectes, de particuliers. Leur organisation: ressources, budget. Programme: conférences, sur la série de prix, principes de la rédaction d'une série, du métré, de la vérification; conférence particulière sur chacun des corps de métiers de la série de prix; conférence sur la résistance des matériaux et la stabilité, la machinerie des diverses entreprises, etc.; l'hygiène des maisons, législation, contentieux, gérance, etc.

ÉTUDE DU MOUVEMENT ARTISTIQUE DES DIX DERNIÈRES ANNÉES, par le Professeur JOHANNES OTZEN, Geheimerrath, Sénateur de l'Académie Royale des Arts de Berlin.

Résumé.—M. le professeur Otzen constate qu'un mouvement d'opinion très vif s'est produit tendant à modifier l'art soit par réforme, soit par des moyens révolutionnaires. Il passe en revue les grands exemples historiques de transformations de l'art, les prodromes, leurs causes, leur processus. La poussée irrésistible des aspirations immanentes des masses, l'action directe de quelques hommes de génie, action sensible, celle-là surtout à l'époque de la Renaissance.

Il souligne la corrélation entre les mouvements littéraires, les révolutions politiques et les évolutions artistiques; aux

revendications pour la liberté individuelle fait suite le développement des personnalités; on sent l'influence discutable de gens curieux et instruits, non architectes, éprouvant le besoin d'écrire des livres à propos de tout, s'en prenant à l'architecture, cherchant du nouveau, toujours du nouveau; il y a aussi l'influence de la manie très humaine du changement; enfin l'originalité exacerbée par un culte exagéré du *moi*! Il y a lieu de juger sévèrement les petitesses et les mesquineries qui en résultent.

Les architectes ne doivent pas s'abandonner au courant; ils doivent se proposer un but; dégager le bon d'avec le mauvais; il faut que leur œuvre ait une signification, car on commence à comprendre le langage de l'architecture.

La Société des architectes de Berlin fait des efforts dans ce sens en provoquant des études, de véritables thèses d'art pour poser à nouveau les grands principes fondamentaux, qu'il est funeste de négliger, et pour les rappeler aux artistes troublés, pour mettre un terme au désarroi actuel des esprits.

Il faut un certain courage pour les proclamer. Les œuvres d'architecture, en tant qu'œuvres d'art, doivent s'affranchir des forces matérielles; tout en employant la matière, elles doivent l'idéaliser.

Il n'est pas bon d'affubler d'oripeaux historiques, d'étrangler dans un vêtement de style déterminé une construction utilitaire, ni de sacrifier tout à l'utilitarisme: on peut, en combinant les formes historiques avec l'utile moderne obtenir une œuvre harmonieuse.

Le mensonge architectural, comme toute tromperie, est condamnable.

L'ornementation n'est qu'une conséquence ou un accessoire, et non le principal.

Il y a des lois d'esthétique dont on ne peut s'affranchir complètement sans commettre des sottises, quel que soit le nom prétentieux dont on cherche à les couvrir; l'excuse de la mode n'est pas valable: ces lois laissent assez de liberté à l'artiste dans ses créations pour ne pas l'entraîner à de véritables monstruosités, à un individualisme déréglé; elles n'empêchent pas le retour à l'étude de la nature en tant que source de tout art.

Il ne faut pas oublier qu'il n'y a rien d'absolument nouveau, et que les périodes créatrices de l'art se sont toujours basées sur la tradition.

Il est bon de vouloir s'affranchir du formalisme sans vie de la dernière période décennale du siècle; cela doit se faire par une meilleure compréhension de nos ressources et de la tradition; point n'est besoin de dynamite d'ailleurs: l'anarchiste détruit, il est incapable d'édifier; il y a des anarchistes en architecture, et même, ce qui est plus grave, des hommes de talent qui s'abandonnent à un véritable dérèglement, à un dévergondage lamentable.

La jeunesse est prompte à se lancer à la suite des nouvelles théories, vers des formes nouvelles, elle fuit la pédanterie morose: ceci trace le devoir du professeur; il faut qu'il élève son cœur; qu'il se fasse une méthode nouvelle, et qu'il donne l'exemple soit comme éducateur du peuple par ses monuments, soit comme éducateur de la jeunesse par les leçons qu'il professe dans les écoles d'architecture ou dans son atelier: la tâche qui lui incombe est difficile à remplir, mais elle est belle.

"La Femme et l'Architecture," par Mme. Frank Fuller (de Chicago), Délégué officiel du Gouvernement des États-Unis d'Amérique.

Depuis nombre d'années, les femmes ont étudié et réussi dans l'étude des arts décoratifs: elles ont reconnu que les arts décoratifs sont à l'architecture ce qu'est la vigne ombreuse à l'arbre majestueux.

A l'époque préhistorique, ce fut la femme qui, la première, pour abriter ses petits, éprouva le besoin d'une protection contre les éléments et se réfugia dans les cavernes. Dans la confection des huttes comme dans celle des tentes elle prit une part active, souvent prépondérante: il en fut de même dans le métier de potier; récemment encore, au Groenland, on vit les femmes mettant en œuvre les matériaux d'habitations fortifiées, d'autres construisant des bateaux, ainsi dans l'ordre naval, militaire et domestique, on a vu la femme suppléant à toutes les demandes de l'architecte; et même le wigwam indien est en entier, principal et accessoires, l'œuvre de la femme indienne; à l'époque des tentes, l'œuvre de la femme domine encore. Il est vrai que Viollet-le-Duc, dans son *Histoire de l'Habitation*, ne leur fait aucune part; cependant l'influence de quelques-unes se fait sentir: ainsi dans le palais de Salomon; puis, plus directement, Marie de Médicis, Blanche de Castille.

C'est en 1880 que l'Institut de technologie, aux États-Unis, admit les femmes à suivre les cours: il y en eut d'abord trois; actuellement, il y a quinze femmes architectes. C'est en 1899 qu'une femme, Mlle. Charles, réussit à se faire admettre à l'Institut royal des Architectes britanniques.

Il y a deux arguments opposés aux femmes: 1° Elles déroberaient aux hommes le moyen de gagner leur vie; 2° elles ne pourraient pas surveiller les travaux extérieurs. Mme. F. Füller écarte comme méprisable par sa banalité le premier argument; quant au second, les grands architectes ne montent guère à l'échelle eux-mêmes; mais d'autre part, en Autriche, ce sont encore des femmes, dans certaines localités, qui, par les échelles, montent à dos les matériaux. Concluez.

En Amérique, des examens très sévères sont à subir par l'architecte pour l'obtention du diplôme; on ne l'a jamais refusé à une femme après qu'elle eut subi avec succès l'examen public. Il y a dix écoles et universités ayant des sections d'architecture; sept de celles-ci admettent indifféremment les deux sexes à leurs cours. Les femmes y montrent beaucoup d'habileté et de puissance d'assimilation; les professeurs ont foi dans leur capacité et leur attribuent beaucoup d'avenir, dans les travaux de cabinet surtout.

Il y a cependant des architectes-femmes qui s'adonnent à la pratique et construisent maisons, clubs, cottages et autres, et des appartements modèles; là, elles semblent dans leur véritable domaine, dans leur élément, et y ont de grands succès.

Mais ce n'est pas tout, et à l'Exposition de Chicago, une jeune fille a été l'architecte du "Bâtiment des femmes"; c'était Mlle. Sophie Hayden, de Boston, qui avait obtenu le 1er prix au concours public pour ce bâtiment: elle a reçu les honoraires d'architecte à 5 p. 100, beaucoup d'éloges et de félicitations; elle venait d'obtenir le diplôme de Technologie de Boston. Une excellente école, dit M. Ph. Spiers du R.I.B.A., fondée sur le meilleur système de France, qui encourage fortement les étudiants à venir passer quelques années, pour compléter leurs études, en Europe, surtout en France.

Le public hésite encore à s'adresser aux femmes pour les grandes affaires; mais il accepte leur influence pour l'habitation particulière.

Mme. Frank Fuller, en terminant, souhaite que l'architecture, tout en respectant le grand enseignement de l'expérience, ne s'attache pas trop à l'inspiration antique et païenne, à celle de l'époque où l'homme était esclave et la femme asservie, ni à celle du moyen âge, époque de violence, de fanatisme et d'intolérance. L'architecture devrait s'inspirer du sentiment moderne, la liberté de l'homme, la dignité de la femme, le respect du travail, l'amour de la justice et de la paix universelle.

DE LA CONSERVATION DES MONUMENTS HISTORIQUES:

Communication de M. Alfred Bohnstedt, Conseiller d'Architecture à Minden en W.

Le dernier Congrès international des architectes, tenu en 1897 à Bruxelles, a unanimement voté une proposition de

M^e Harmand, conseil juridique de la Caisse de défense mutuelle des architectes français, ainsi conçue : —

" Le Congrès émet le vœu que les dispositions les plus complètes soient prises dans tous les pays pour établir l'inventaire, assurer la conservation définitive et le classement des monuments et des objets d'art qu'ils contiennent, ainsi que des découvertes faites par suite de fouilles.

" Le Congrès souhaite que l'unification des législations existantes soit fait dans le plus bref délai pour assurer ce résultat."

Tout en nous associant entièrement à la première partie de cette résolution, nous doutons qu'il y ait des chances de faire accepter la dernière partie par les gouvernements. Ceux qui possèdent une loi et un service des monuments historiques bien organisé se refuseraient à les modifier, et les autres tâcheraient de faire encore mieux.

Cependant, on pourrait bien établir certains principes généraux qui se trouvent réalisés dans les meilleures lois existantes, et qui pourraient être introduits dans toute nouvelle législation sur les monuments historiques. Votés et appuyés par un Congrès international de haute autorité et de parfaite compétence en la matière, ils serviraient à vaincre l'opposition, les réticences et les préventions que les projets de loi relatifs à la protection des monuments historiques ne manqueront certainement pas de rencontrer dans le public et dans les corps législatifs. Car bien que l'idée de la conservation des monuments ait conquis beaucoup de terrain au cours de ce siècle, il y a toujours, même parmi les plus instruits, nombre de gens comprenant mal que ces monuments sont un précieux héritage du passé que nous avons le devoir de léguer intact aux futures générations.

Jusqu'à présent, la loi française du 30 mars 1887 est la plus complète et n'a été surpassée par aucune loi, même plus récente, d'un autre pays ; elle offre toutes les garanties d'une protection réelle et efficace des monuments.

Cette loi est basée sur le classement.

On ne réussira jamais à donner une définition assez précise et concise de ce qu'il faut entendre par " monument historique." La loi hongroise du 24 mai 1881 dit : " Sous la désignation monument d'art on entend toute construction sur ou sous terre et ses dépendances ayant la valeur d'un monument artistique ou historique." Au fond, ce n'est qu'une périphrase, ce n'est pas une définition. Donc, le seul moyen d'indiquer les objets qu'il faut placer sous la protection de la loi, c'est de les énumérer, d'en dresser une liste complète basée sur un inventaire général de tous les monuments historiques et artistiques du pays.

C'est là un travail énorme dans un pays qui possède une longue histoire. Heureusement, dans la plupart des pays civilisés, on s'est mis à l'œuvre depuis longtemps, et dans beaucoup de pays il existe même un service régulier de relèvement des monuments dont le travail est assez avancé.

L'inventaire achevé, les monuments seront classés, c'est-à-dire déclarés monuments artistiques et placés sous le contrôle de l'État. Cette mesure législative, touchant aux droits de la propriété privée, n'est pas facile à régler, mais elle a donné, en France, les meilleurs résultats. Elle est, du reste, prévue dans la proposition de M^e Harmand. Le classement doit comprendre tous les monuments et objets d'art d'origine nationale ou découverts sur un territoire national. Une liste restreinte, au contraire, comme celle de la loi anglaise de 1882 (*Ancient Monuments Protection Act*), peut constituer un danger, parce qu'elle met hors de la loi tous les monuments non classés.

Donc le classement est à adopter comme principe général.

Pour la conservation proprement dite des monuments, les sociétés historiques et archéologiques allemandes, réunies en Congrès l'année passée, ont pris les résolutions suivantes, qui sont également tirées de la loi française, et qui pourraient être généralement acceptées.

1° Un monument immeuble d'un intérêt artistique ou historique, appartenant à l'État ou à une corporation dans le sens du droit public, ne pourra être détruit ni être l'objet d'un travail de restauration, de réparation essentielle ou de modification, ni être sciemment abandonné à la ruine sans le consentement de l'autorité chargée du contrôle.

2° Un objet mobilier d'un intérêt artistique ou historique, appartenant à l'État ou à une corporation dans le sens du droit public, ne pourra être aliéné, restauré, réparé d'une façon essentielle ni modifié sans le consentement de l'autorité chargée du contrôle.

3° Des fouilles archéologiques ou des recherches quelconques ne pourront être entreprises, sur des terrains appartenant à l'État ou à une corporation dans le sens du droit public, sans le consentement de l'autorité chargée du contrôle.

4° Des objets mobiliers d'un intérêt artistique ou historique appartenant à un particulier et en péril sous leur propriétaire actuel, ainsi que des terrains appartenant à un particulier, qui contiennent des monuments, immeubles ou mobiliers d'un intérêt archéologique, pourront être expropriés.

Ajoutons qu'il faut considérer comme un péril, non seulement les actes indiqués dans l'article 2, mais aussi l'exportation hors du pays. Si l'État ne peut interdire toute aliénation d'un objet d'art sans porter atteinte aux droits de la propriété privée, il peut se réserver le droit de préemption, si cet objet est d'origine nationale ou d'un intérêt national. Le principe se trouve déjà dans la fameuse *lex Pacca*, de l'ancien État de l'Église, et dans la loi grecque du 10/22 mai 1834. Naturellement, cette régle ne peut pas être étendue à toutes les œuvres des anciens maîtres nationaux ; car on ne voudrait pas anéantir le commerce des antiquités et des objets d'art, qui a le grand mérite d'avoir sauvé beaucoup d'objets qui, autrement, eussent été perdus, et d'avoir contribué à l'étude de l'art ancien ; on ne voudrait pas non plus mettre les musées et les collectionneurs dans l'impossibilité d'acquérir des œuvres étrangères. Il ne peut s'agir que de chefs-d'œuvre, d'œuvres uniques, de précieux souvenirs historiques qui représentent pour ainsi dire un trésor national, et dont la perte serait irréparable.

S'il n'est pas admissible d'exporter un pareil objet sans le consentement de l'autorité supérieure, il n'est pas permis non plus de la faire disparaître. Il existe de riches amateurs qui, jaloux de leurs acquisitions, les enferment et ne les montrent qu'à leurs intimes. Mais il ne faut pas oublier qu'un chef-d'œuvre d'art n'est pas destiné seulement au plaisir de quelques privilégiés ; il doit servir aussi à l'étude des jeunes artistes qui voudraient s'inspirer du génie du maître. C'est pourquoi ces œuvres doivent rester accessibles au public, sinon à la grande foule des curieux, du moins à tous ceux qu'amène un intérêt supérieur. S'il n'y a pas d'inconvénient à ouvrir les portes des palais et des châteaux domaniaux au public, on peut exiger que les anciens immeubles et les collections d'art ou d'histoire appartenant à des particuliers puissent également être visités. De cette façon, il s'exercerait un certain contrôle du public à côté de la surveillance que l'État doit se réserver pour prohiber toute contravention et pour faire valoir ses droits en temps utile.

Pour faire face à tant de charges, l'Etat doit avoir à sa disposition un crédit porté chaque année au budget. En dehors des frais d'administration pour le service du contrôle, il faudrait une somme beaucoup plus élevée que celle prévue actuellement dans la plupart des budgets, non seulement pour l'entretien et l'achat d'immeubles ou d'objets d'art, mais aussi pour subvenir aux corporations ou établissements incapables de supporter seuls les dépenses de la conservation de leurs monuments. Car c'est en dernier lieu le trésor public qui doit venir à leur aide.

Le moyen le plus puissant de protéger les monuments

historiques serait, sans doute, d'intéresser le public. Il faut espérer que l'idée de la conservation gagnera toutes les classes de la population, et tous les efforts tendant à répandre cette idée doivent être encouragés. Les sociétés archéologiques et artistiques qui existent partout sous différents noms et les journaux créés en vue d'éclairer le public sur les intentions et les vues des amis des monuments ont préparé le terrain. On a rapporté au dernier Congrès qu'en Belgique il existe des villes qui se préoccupent non seulement de conserver les monuments, mais encore de conserver des ensembles de monuments. Dans la plupart des autres pays on est loin de cet idéal. Il faudra se tenir pour content si, par les simples mesures législatives que nous avons indiquées, on parvient à protéger les monuments contre le vandalisme de ceux qui veulent tout sacrifier aux besoins de la vie moderne.

Proposition de M. le Baron Henry de Geymüller de Baden-Baden, Correspondant de l'Institut de France.

1° Chercher à obtenir des gouvernements des différents pays que dans toutes les écoles pour architectes et ingénieurs, ainsi que dans les établissements où l'on enseigne la construction, les arts décoratifs ou du bâtiment en général, aucun diplôme, brevet ou certificat ne soit délivré, à moins que l'élève n'ait justifié d'avoir assisté à une séance spéciale et annuelle de l'École, ayant trait au respect dû aux monuments historiques considérés au double point de vue des :

(*a*) Trésors du patrimonie national ;

(*b*) Jalons authentiques du développement de l'architecture au point de vue de l'esthétique et des procédés techniques.

On lirait ensuite aux élèves quelque chose d'analogue ou d'identique aux deux Instructions que l'Institut Royal des Architectes Britanniques a publiées en 1865 et revisées en 1888, dont la lecture dure vingt-sept minutes environ. Ils ont pour titre :

(*c*) *Conseils généraux aux promoteurs de restaurations ;*

(*d*) *Indications pour ouvriers employés à la réparation et à la restauration d'édifices anciens.*

2° Prier les différentes sociétés d'architectes et d'ingénieurs de faire leur possible afin de répandre ces notions comme le fait le dit Institut Royal des Architectes Britanniques, en réimprimant toujours les deux susdites " Instructions " dans l'Annuaire qu'il publie annuellement.

Au Congrès des Architectes à Paris en 1889, M. de Geymüller avait déjà esquissé cette proposition, mais, faute de temps, elle n'aboutit pas. Sur sa proposition, la Société pour la Conservation des Monuments historiques Suisse a adopté cette idée et a publié des Instructions analogues.

Cette mesure n'empiète nullement sur le domaine des Institutions pour la Conservation des Monuments historiques, elle leur vient simplement en aide.

Visit of Architects to Paris.

Mr. Isaac Taylor, Hon. Secretary of the Education Committee of the Manchester Society of Architects, is arranging a visit of members of his Society to Paris, under the conduct of the tourist managers, Messrs. Dean & Dawson. The visit is to last a week, commencing on Saturday, the 15th September, and concluding the following Saturday. M. Poupinel, Secretary of the Société Centrale, has kindly offered to meet the visitors in Paris. Mr. Taylor writes that the Society would be much honoured if any members of the Institute would join their party. The inclusive fare is £6. 19*s*., and includes travelling expenses, hotel accommodation and meals, carriage drives, &c. Programmes of the tour may be obtained from Messrs. Dean & Dawson, 55 Charing Cross, Trafalgar Square, or branches. Members wishing to join the party should send in their names to Mr. Isaac Taylor, 7 Chapel Walk, Manchester, not later than the 30th August.

The late Duke of Saxe-Coburg and Gotha

[*Hon. Fellow*].

On behalf of the Royal Institute the following message of condolence was addressed to Her Majesty the Queen on her recent bereavement, and forwarded through the Home Secretary ;—

The Respectful Address of the President and Council on behalf of The Royal Institute of British Architects.

May it please your Majesty,—

We beg leave respectfully to approach your Majesty and to tender our deepest sympathy on the irreparable loss which your Majesty has sustained by the sudden death of his Royal Highness the Duke of Saxe-Coburg and Gotha.

We in common with your Majesty's most dutiful subjects desire to join in the universal tribute of affection and loyalty which has been offered to your Majesty and the Royal Family, and in the prayer for Divine support in a time of such sad bereavement.

On behalf of the Royal Institute of British Architects,

WM. EMERSON, *President.*
ALEX. GRAHAM, *Hon. Secretary.*

The Duke of Saxe-Coburg and Gotha was elected an Honorary Fellow of the Institute in 1879.

The late John Humphreys Jones, whose death was recently announced in the *Times*, was the father of the Associate of the Institute who bears the same name, and of Mr. Harry E. Jones [*A.*]. The deceased gentleman retired from practice fifteen years ago.

REVIEWS.

TEWKESBURY AND DEERHURST.

The Abbey Church of Tewkesbury, with some account of the Priory Church of Deerhurst, Gloucestershire. By H. J. L. J. Massé, M.A. 8o. *Lond.* 1900. *Price* 1s. 6d. [*Messrs. George Bell & Sons, 1 York Street, Covent Garden, W.C.*]

This handy little volume, forming the latest addition to Messrs. George Bell & Sons' " Cathedral Series," should be welcomed equally by the general public and the technical student or antiquary. Within a modest compass it offers a veritable compendium of well-selected matter, architectural and historical, concerning the interesting, and in many respects unique, buildings at Tewkesbury and Deerhurst.

The Abbey Church of Tewkesbury is of most ancient date, tradition pointing to the foundation of a chapel in 655 A.D.

The oldest portions of the present church date back to 1123, and most of the fabric may be assigned to this period. The groined stone roofs were substituted for earlier wooden ceilings in the fourteenth century, and the upper part of the choir was rebuilt in the time of Abbot Parker—1389-1421—when the beautiful apsidal chapels were added. The fourteenth-century glass in the choir lights is some of the most perfect remaining to us. Most fortunately, through lack of funds it was not interfered with during the earlier restorations.

The author devotes his first chapter to a concise chronicle of the history of the fabric, its foundation, its structural changes and vicissitudes, arranging his facts in a clear and readable manner, and the extracts he gives in the later years of the chronicle are of special interest.

That the fabric has been so well preserved as a whole is due to the enthusiastic love of the good people of Tewkesbury for their church, which led them to petition the King's Commissioners at the Dissolution for its purchase. This they effected at a cost of £453--the value of the lead and the bells—no doubt a sufficiently heavy tax upon their resources.

A clear historical description first of the exterior of the building, and afterwards of the interior, follows. Mr. Massé takes his readers systematically around the building, pointing out in turn each feature of interest, omitting no detail of importance.

It seems a great pity that the private ownership of the grounds on the east of the abbey should have proved so great an obstacle to antiquarian research, and should have rendered it impossible to restore the lady chapel, or even to ascertain its foundations. The restorations effected in 1864–79, under Sir Gilbert Scott, and the previous restorations in 1824–30 are, on the whole, sympathetically described. Much of the earlier restoration work would seem to have been done with care and reverence.

The modern glass is severely criticised, also the shiny tiled pavements, which are of formal design.

It may be a matter of regret to many that the beautiful old organ, dating from 1737, no longer occupies its former position of dignity, but is relegated to the south transept. The screen on which it stood was an eyesore, however, and its disappearance was a matter for congratulation.

Much yet remains to be done in the restoration of the glorious monuments and chantries, of which several good photographs are provided in this volume.

The author completes his notice of Tewkesbury with references to the new "Grove" organ, a wonderful instrument, fitted with many novel stops; also notices of the church plate, the registers—which date from 1554—and a list of abbots from 1102 to the Dissolution.

Deerhurst Priory.—The second part of the volume is devoted to a careful description of this very ancient and remarkable church. The building claims an authentic origin as early as the ninth century, and is probably earlier, and the Saxon tower is still fairly perfect. Here, as at Tewkesbury, the nave seems to have been originally the Parish Church, and the choir and transepts for the priory use.

The church contains work of all dates, which is well described, and will prove a valuable help to the student. Several obscure features are noted and explanations given where possible. The remarkable font, with its beautiful ninth-century detail, of Celtic character, is the subject of an illustration.

Plans are given both of the church as it is at present, the different dates being clearly shown, and also of the pre-Norman church, with its apsidal termination (traces of which are still to be found). A section of the church is also given showing the living rooms which, in Saxon days, were wont to be formed over the churches.

The adjacent monastic buildings, which present features of interest, have attention; and a chapter, illustrated with some good photographs, is given to the recently discovered Saxon chapel, to which an inscribed stone in the Ashmolean Museum was found to refer, showing it to have been built by Duke Odda in 1056 A.D.

Generally, this little volume should be commended for the large amount of valuable matter it contains, no less than for its lucidity and readable nature. The illustrations are abundant, and are chiefly from photographs, of which the majority are good, but some show a want of brilliancy. There are reproductions of two of the Rev. J. L. Petit's sketches in his characteristic style.

Bristol. F. BLIGH BOND.

DOMES.

The Dome as the basis of an Architectural System. By Arthur T. Bolton.

It would be difficult to name any sort or style of work mention of which does not raise before the mind's eye some type representative of the whole. So at the word "dome" one's thoughts fly to Constantinople, or Rome, or Florence—to the greatest achievements of architectural genius.

Mr. Bolton, however, does not deal with any one dome of the first importance either as a covering for a great space or as a single feature—those with which he deals varying generally from thirty to fifty feet in diameter—and he may be said to have disregarded external effect completely, though the satisfactory combination of line and curve inside and out has been one of the standing problems for builders of domes from the beginning. But he disclaims any intention of dealing with his subject from the point of view of a single and predominant feature, and, in turning his attention to the systematic and connected use of domical forms as a principle of design rather than as a method of constructive roofing, and of internal grouping and decorative line rather than of external architecture, he has performed a most useful and suggestive work.

The paper is one of those careful excursions into by-paths of history which not infrequently remain unexplored by the scholar owing to the attraction of greater kindred subjects, but which in the history of architecture often present studies instinct with poetry and idealism, and possess a claim upon the student from the very fact that their teaching bears so closely upon the questions with which he has to busy himself in every-day practice.

The different forms of plan and section shown in the diagrams are many of them of considerable interest, and, so far as personal investigation goes, are drawn chiefly from Italy, and the examples described are well selected and collated. Such a series as S. Giustina, Padua, S. Fedele, Milan, the two churches at Viterbo, between which the author draws an apt comparison, S. Alessandro, Milan, and the Chiesa del Madonna, Macereto, Sta. Maria del Prato, Gubbio, and Madonna di S. Luca, Bologna, is a most interesting one, especially with regard to plan.

The sketch of the general development places clearly before the reader the modifications which experience suggested in dealing with the domical form as one of a series of internal features, and it is not too much to hope that further developments are possible, for it must be confessed that as used hitherto the dome has proved itself more suited to a concentrated than an elongated form of building, to the type whose perfected form is found at S. Sophia than to that of, say, S. Giustina at Padua. Mr. Bolton's "Five Domed Church" may be a more satisfactory basis of design than his "Domical Church." The application of a series of circular openings in a nave of Gothic form, even when lowered to the fullest extent consistent with the dignity of the dome, is a difficult matter, and possibly the author will admit that he has not seen the problem successfully solved either in Renaissance examples or in those of other ages, such as the fine series of domed churches to be found in France of the eleventh and twelfth centuries. A comparison between these two classes would be interesting, though modern development would probably follow the lines of Mr. Bolton's studies rather than the lessons to be learnt at Angoulême or Fontevrault.

Manchester. PERCY S. WORTHINGTON.

LAUNDRIES.

The Steam Laundry: Its Construction, Equipment, and Management. By John Taylor, A.I.M.E., &c. Sm. 8o. [Lond. 1900. Messrs. Heywood & Co., 150 Holborn, E.C.]

This volume will undoubtedly be found very useful to managers and proprietors of small laundries, for whom it has evidently been written. Although the architect may find some useful hints in the book, the greater portion deals with matters entirely outside his province. Only the first few pages are devoted to "Construction," which subject is treated in a general way as regards site, subsoil, water supply, &c. The author strongly advocates the employment of the best materials only—a truism not always grasped by clients. Part II. deals with "Equipment," and contains a useful and concise description of the various boilers, machines, &c., in general use, for various purposes. Part III., on "Management," contains a mass of information, such as the chemical analysis of soap, the prices usually charged for washing all kinds of garments, and the best methods of persuading customers to pay when the work is done. This is all interesting, but more useful to those connected with the trade than to architects. A small plan is shown as a frontispiece of an ideal laundry "to wash £100 a week." This is very well arranged, and would work admirably in execution, on a site with light on all four sides. The author is evidently conversant with the subject in all its details, and a volume by him dealing with Public Laundries from a constructional, rather than commercial, point of view, would be most interesting.

R. STEPHEN AYLING.

NOTES, QUERIES, AND REPLIES.

Protection of Public Buildings from Lightning.

Supplementing his Paper on the above subject read before the Institute on the 23rd April last [p. 285 *ante*], Mr. Killingworth Hedges, M.Inst.C.E., sends the following description of the system of lightning conductors which he designed for the protection of St. Paul's Cathedral:—

The usual arrangement of lightning conductors is very much the same in principle as that adopted fifty years ago. One or more conductors, either of stranded wire or of flat ribbon, are run from the air terminals or collection of spikes to the earth, and joints are made to other conductors either by junction-pieces furnished with set screws or by splicing the cables together.

These methods of jointing are open to the very grave objection that in a short time oxidation of the surface in contact will be sure to occur, and instead of a perfect electrical joint, resistance is set up, which means that if one of the conductors receives a flash, the electric current may be diverted to any moderately good conductor, such as a rain-water gutter or a pipe, which happens to be in the vicinity.

Soldering all joints renders the work perfect for a time, but experience shows that the expansion and contraction of a soldered joint, say between two stranded conductors, will become loose in about ten years (more or less) according to its situation, and cannot in any sense of the word be termed a permanent joint.

Earths.—In some installations the earth is formed by simply burying a piece of cable, generally twisted up in the form of a spiral; this method is condemned in the Report of the Lightning-rod Conference, and most contractors use an earth-plate, but even then the connection to the plate is often so insecure that after a few years the conductor, if not entirely separated, probably becomes quite loose.

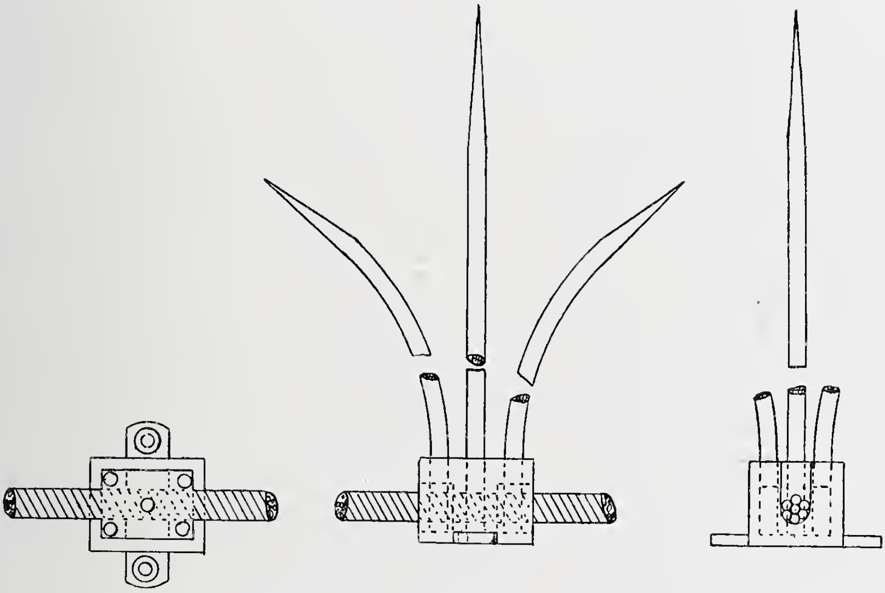


FIG. 1. FIG. 2. FIG. 3.

METHOD OF JOINTING COPPER RODS TO A HORIZONTAL CONDUCTOR SO AS TO FORM AN AIGRETTE.

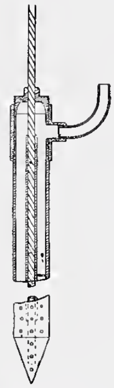


FIG. 4.—TUBULAR EARTH WITH CONDUCTOR.

It was with a knowledge of these defects in the existing methods that Mr. Killingworth Hedges, when asked to re-arrange the system of lightning conductors of St. Paul's Cathedral, resolved, where joints were necessary, to have those which would last as long as the other parts of the system; also a permanent earth-connection which could be led to moist ground, at a much greater depth than would be practicable with earth-plates.

Finding that there was nothing in the trade catalogues which met his requirements, he has invented and designed a complete set of what may be termed "lightning contractors' accessories"—namely, air terminals, jointing boxes, and a new tubular earth-connection.

Joints.—These are made by boxes tinned inside, and can be used for tee, two-way, or ordinary joints, and are furnished with lugs, screws, or straps, so that they can be fixed in almost any position on the roof or other parts of the building. The joint is made by pouring solder over the loosely-spliced conductors which are laid in the box; it is unnecessary to have an open fire or blow-flame lamp on the roof, as the plumber's pot containing the solder may be hoisted from the ground.

Aigrettes.—When a horizontal conductor is used it is often desirable to have one or more projecting spikes; they are very easily fixed to the conductor in the following manner (figs. 1, 2, 3). The conductor having been well cleaned is dropped across the slots, the desired number of rods are placed in the pockets or holes in the box, and molten solder is poured into the box so that the whole becomes a solid mass which cannot be interfered with, and thus forming a protected joint of minimum resistance to the electric circuit. Fig. 1 is a plan of an aigrette showing four terminals, fig. 2 a side view, and fig. 3 an end view.

Air Terminals.—These are constructed by prolonging a solid copper pointed rod, which is united to the conductor by soldering both into a box sleeve-joint, the former being actually inserted into the strands of the cable; pockets in the circular box receive the points, which are fixed to the central rod by filling the box with solder.

The usual method of screwing the spikes to a ball is open to the objection that in a short time the conductivity is liable to be destroyed.

Earths.—The ordinary earth-plate to be efficient must be of considerable area, and it is often difficult to place this at the depth which is necessary to obtain moist ground. Mr. Hedges has therefore designed what is termed a *tubular earth* (fig. 4). A specially constructed iron pipe 1¼ in. to 2½ in. diameter is perforated at the lower end and furnished with a spike; this is driven by special tackle into the ground, other lengths being screwed on until the required depth is attained. The conductor is passed through a metal cap and dropped down the tube, which is now closed by the cap to which the cable is soldered; a branch pipe can be led from the top so that the earth may be watered.

This system of tubular earth offers practically no electrical resistance; it takes up hardly any room, so that if the building is surrounded by concrete it is only necessary to cut a very small hole to allow for sinking the tube; it also has the great advantage of being easily removed should some obstruction be met with, or if suitable ground is not found. It is estimated that there is a saving in first cost by using the iron tube instead of the expensive copper earth-plate. The various improvements are protected by letters patent.

The University of London and the Higher Education of Architects [p. 431].

From Professor Roger Smith [*F.*]—

Referring to the interesting paper by Mr. Cates on the University of London, in the last issue of the Journal, and especially to the last paragraph, which I hope readers will not take more in earnest than was intended by the writer, I should like to point out that there is no necessary connection between the reorganisation of the University of London or the incorporation with it of University and King's Colleges, and the establishment in England of a collegiate system of education for architects parallel to those in operation at some of the American Universities.

Such a system, if it ever grows up here, will be established either because the need of more complete education for architects has become strongly felt, or because some new distinction can be obtained by ambitious and capable young men which could only be reached by a severe and prolonged course of study. Judging from what has happened in other professions, the second motive, namely, the desire to attain a coveted honour, is likely to be the stronger motive; and it is possible that the reorganisation of the University may furnish an opportunity for establishing such a distinction.

At present the highest distinction at which an architectural student aims is passing the qualifying examination of the Royal Institute, and the level at which that examination has been fixed is based, and very rightly based, upon an estimate of the degree of knowledge which a pupil in a good office, with assistance from the existing College courses, is able to attain in a few years.

If a *degree* in Architecture is ever established, its level must necessarily be higher than that of the qualifying examination; and then, and not, I fancy, till then, such a demand for systematic instruction as does not appear to exist at present may spring up. This may have to be met by an extension of the programmes of the present colleges—or possibly by the establishment of a new college.

I presume that it is within the competence of the University as now constituted to establish a degree for Architects, and that such degree would be that of *B.Sc.—taken in Architecture.* This, of course, will not be done till it is asked for and pressed for; and if the Royal Institute or a Congress of Architects sees fit to memorialise the Council of the University on the subject, the first step towards what would undoubtedly forward the cause which Mr. Cates has at heart will have been taken.

University College, London.

LEGAL.

Ancient Lights: Obstruction: Limitation of Right acquired by Prescription.

WARREN AND OTHERS *v.* BROWN.

The judgment in this case contains an interesting summary of authoritative decisions on the extent of the right to light which is acquired by statutory prescription, and in view of the special interest attaching to the subject at the present moment it is here printed in full as likely to be of value for future reference. The case was tried at Leicester Assizes, before Mr. Justice Wright, when judgment was reserved. Mr. Hugo Young, Q.C., and Mr. W. H. Stevenson appeared for the plaintiffs; and Mr. Stanger, Q.C., and Mr. Neilson for the defendant. Mr. Justice Wright delivered judgment on the 4th August, and the following report is from *The Times* of the 6th.

His Lordship said:—This case raises a question of general importance in relation to ancient lights—namely, whether the right which is acquired by statutory prescription is a right to the continuance of substantially the whole quantity of light which has come to the windows during the twenty years, or is ordinarily limited to a sufficient quantity of light for all ordinary purposes of inhabitancy or business. It seems strange that such a question should be still open for discussion, but there is a considerable body of authority in favour of either proposition. The facts are these. The plaintiffs, as the owners and the tenant of a building in the town of Leicester, claim damages and an injunction in respect of the obstruction of the access of light to windows more than twenty years old. At the trial the claim was limited to two rooms, one on the ground floor and the other above the former, both facing to the south. For a length of about 17 ft. in front of these rooms the defendant has raised his own building from a height of about 20½ ft. to about 26 ft., but has set it back about 2 ft. or 3 ft., so that the width of the street between the two buildings, which was about 17 ft., is now about 19 ft. Four out of five windows in each of the two rooms are opposite to that part of the defendant's building which I have mentioned. These windows are large and high. Those of them which are on the ground floor are, and for years have been, glazed with fluted glass for about half their height from the bottom. In addition to the front light both rooms receive much side light, especially from the east and east-south-east, from a wide street running north and south at a distance of about 50 ft. to 70 ft. Light is not in any direction cut off by very high buildings. To the south-east the defendant has taken down a high chimney-stack, which to some extent used to intercept the light from that quarter. I find that the defendant has not obstructed or diminished to any material extent, if at all, the light coming to the upper of the two rooms in question. As regards the four windows on the ground floor, I find that the defendant has materially diminished the light which the plaintiffs enjoyed for those windows for twenty years past, but that abundant light remains for all ordinary purposes of inhabitancy or business. The room in its present state is better lighted than the ground-floor rooms in many of the principal streets. The plaintiff Baum (the lessee of the premises) has during some years, but much less than twenty years, carried on in the premises, and particularly in the ground-floor room in question, a manufacture of hosiery by means of machinery which requires a very exceptional quantity and quality of light for the continued and accurate adjustment of filaments to fine needles moving at speed in bundles of some hundreds. Before this manufacture was established at these premises a different industry (manufacture of boots and shoes) requiring good, but not special or extraordinary, light was carried on there. I find that the defendant has by the acts complained of diminished the light so that it is now materially insufficient during some part of the day for the special requirements of the plaintiff Baum's industry. I find that the plaintiffs' premises have throughout the twenty years before action been suitable for such a manufacture as that now carried on by Baum, and that the kind of manufacture is and has long been common in the district, and has for twenty years past required more light than most other industries, but not until the last few years in so high a degree as at present, the older machines having been less delicate and complicated. I think that the light as it now exists would have been sufficient for any but the most recent kinds of machines. In my judgment no sufficient case for a mandatory injunction is made out in any view of the plaintiffs' rights. The inconvenience to which Baum was subjected can be, and to a great extent it has been, obviated by the removal of machines to the upper room, and in any case it can be remedied by some increased expenditure for gas. The question is whether the plaintiffs are entitled to damages. If they are, I assess the amount at £100 for the tenant and £200 for the reversioners. There are scarcely any authorities bearing on the question until 1865. It appears from Aldred's case (9 Rep., 57a) that the nature of the cause of action in the case for infringement of rights to light was not clearly settled. It is classed with actions for nuisance, and the pleading closes with "quod messagium horrida tenebritate obscuratum fuit"; but a prescription is alleged. In Luttrel's case (4 Rep., 86a) it is laid down that (as was afterwards established by Yates *v.* Jack (L.R., 1 Ch., 295) and other cases), "if a man has an old window to his hall and afterwards he converts the hall into a parlour or any other use, yet it is not lawful for his neighbour to stop it, for he shall prescribe to have the light in such part of his house." In 1752, in Fishmongers' Company *v.* East India Company (1 Dickens, 163), Lord Hardwicke said:—"It is not sufficient to say it will alter the plaintiff's lights, for then no vacant piece of ground could be built on in the city; and here will be 17 ft. distance, and the law says it must be so near as to be a nuisance. It is true the value of the plaintiff's house may be reduced by rendering the prospect less pleasant, but that is no reason to hinder a man from building on his own ground." In Martin *v.* Goble (1 Camp., 320) a malt-house with ancient windows was occupied for seven years as a poor-house. McDonald, C.B., directed the jury that "the house was entitled to the degree of light necessary for a malt-house, not for a dwelling-house. The converting it from one into the other could not affect the rights of the owners of the adjoining ground. No man could by any acts of his suddenly impose a new restriction upon his neighbours." In Attorney-General *v.* Nichol (1809, 16 Ves., 338), Lord Eldon (Lord Chancellor) says:—"There are many obvious cases of new buildings darkening those opposite to them, but not in such a degree that an injunction could be maintained, or an action upon the case; which, however, might be maintained in many cases which would not support an injunction." In Back *v.* Stacey (1826, 2 C. and P., 465) Chief Justice Best directed the jury that in order to ground an action there must be a substantial privation of light sufficient to render the occupation of the house uncomfortable and to prevent the plaintiff from carrying on his accustomed business (that of a grocer) as beneficially as he had formerly done. In the forty years after Back *v.* Stacey there seem to have been few or no decisions bearing on the question; but in 1865, in Clarke *v.* Clark (1 Ch., 16), the question was distinctly raised for the first time. Then Lord Cranworth refused an injunction in a case in which exceptionally good light had been materially diminished, saying that the plaintiff must show such an obstruction "as to interfere with the ordinary occupations of life." He proceeded to draw a distinction between town and country, which has not been fully adopted in later cases. In Durell *v.* Pritchard (1865, 1 Ch., 244) and Robson *v.* Whittingham (1 Ch., 442), Lords Justices Knight-Bruce and Turner adopted the language of Lord Cranworth. In Yates *v.* Jack (1866, 1 Ch., 295) Lord Cranworth established the rule, which has ever since that case been recognised as settled, so far, at any rate, as ordinary purposes of inhabitancy or business are concerned, that the owner of ancient lights is entitled to have them protected without reference to the particular purpose for which they were enjoyed during the twenty years; and he does not apparently draw any distinction between ordinary and extraordinary purposes. In the same year, in Dent *v.* Auction Mart Company (2 Eq., 238), Vice-Chancellor Wood established another rule that an injunction would not be granted in equity unless the case is a proper one for substantial damages at law. Having referred to Martin *v.* Headon (2 Eq., 425) and Calcraft *v.* Thompson (15 W.R., 387), his Lordship proceeded:—In Lanfranchi *v.* Mackenzie (4 Eq., 421) it was held by Vice-Chancellor Malins that where ancient windows had received an extraordinary amount of light during the twenty years and the plaintiff had used it for a purpose requiring extraordinary light (examination of silks) for only a portion of that period, he had no right to an injunction on the ground of an obstruction which left him enough light for all ordinary purposes, though not enough for extraordinary purposes. He thought, however, that if the plaintiff had been "in the enjoyment of an extraordinary user for twenty years, that would establish the right against all persons who had reasonable knowledge of it." In 1871, in Kelk *v.* Pearson (6 Ch., 809), Lord Justice James said:—"On the part of the plaintiff it was argued before us that this was an absolute right, that now, under the statute 2 and 3 William IV., c. 71, he had an absolute and indefeasible right by way of property to the whole amount of light and air which came through the windows into his house, and that he could maintain an action at law or a suit in equity upon that absolute legal right; and the only question as to the effect or extent of his right would be with regard to the discretion of this Court in considering whether it was a case for damages, or to be interfered with by way of injunction. Now, I am of opinion that the statute has in no degree whatever altered the pre-existing law as to the nature and extent of this right. The nature and extent of the right before that statute was to have that amount of light through the windows of the house which was sufficient, according to the ordinary notions of mankind, for the comfortable use and enjoyment of that house as a dwelling-house, if it were a dwelling-house, or for the beneficial use and occupation of the house, if it were a warehouse, a shop, or other place of business. That was the extent of the easement—a right to prevent your neighbour from building upon his land so as to obstruct the access of sufficient light and air to such an extent as to render the house substantially less comfortable and enjoyable." Lord Justice Mellish concurred, but dissented from that part of Lord Cranworth's judgment in Clarke *v.* Clark which suggested a possible difference between town and country. In 1873, in Dickinson *v.* Harbottle (28 L.T., 166), Vice-Chancellor Malins followed his own decision in Lanfranchi *v.* Mackenzie. The question was again raised in the Court of Appeal in City of London Brewery Company *v.* Tennant (9 Ch., 212) before Lord Selborne (Lord Chancellor) and Lords Justices James and Mellish. Lord Justice James said:—"In the case of Kelk *v.* Pearson the Lord Justice and myself endeavoured to express what we thought to be the rule applicable to these cases, and I believe the Lord Chancellor entirely agrees with the mode in which it is there expressed. We only repeated in different words what is to be found in many previous cases—that the extent of the right of an owner of ancient lights is to prevent his neighbour from building so as to obstruct the access of sufficient light and to such an extent as to render the house substantially less comfortable and enjoyable." Lord Selborne (Lord Chancellor) said, "I agree with the judgment which Lord Justice James has delivered," expressly adhering to the language in Kelk *v.* Pearson, and adding that the supposed rule as to 45 degrees is no rule of law, but that if 45 degrees of light is left that is some *prima facie* evidence of the light not being obstructed to such an extent as to call for the interference of the Court. In Leech *v.* Schweder (1874, 9 Ch., 463) Lords Justices James and Mellish held that there was no difference in extent and nature between the right acquired under the statute and a right acquired by "the disposition of the owner of two tenements," and that "practically there is no difference with respect to light in the amount of damage which would entitle a person to maintain an action at law and that which would entitle him to file a bill in equity." In Aynsley *v.* Glover (1874, 18 Eq., 515; 10 Ch., 283), per G. Jessel (Master of the Rolls), it was finally settled that the right to light for a room is not limited by the fact that before the obstruction the room was used for purposes requiring little of the light which came to it, and Back *v.* Stacey, as amended by Vice-Chancellor Wood, is approved; but the case does not seem to contain anything affecting the present question, nor are there any criticisms on Kelk *v.* Pearson or City of London Brewery Company *v.* Tennant. There are no subsequent reported decisions of the Court of Appeal which are in point, and the last-mentioned decision of that Court would, as I understand it, be decisive of the matter, subject only to review in the Court of Final Appeal. This view, however, seems not to have been universally adopted, a different view having been apparently taken by the Court of Appeal in Ireland, by the whole or a majority of a Divisional Court in England, and in two or three cases by my brother Kekewich. His Lordship then referred to Moore *v.* Hall (1878, 3 Q.B.D., 178), in which Mr. Justice Mellor and Mr. Justice Manisty appear to have held that the plaintiff's right is to have the light flow in the same quantity as through the period of prescription; to Mackay *v.* Scottish Widows Society (1877, 11 Ir. R., Eq., 1), in which Lord Justice Christian laid it down that "the right is to an average *maximum* of the light which nature has been shedding on the window for twenty years before the defendant interrupted it"; and to Lazarus *v.* Artistic Photographic Company (1897, 2 Ch., 214), in which Mr. Justice Kekewich held that the plaintiff was entitled to be protected in the enjoyment of extraordinary light for photographic purposes, although he had not been using it for those or other purposes requiring extraordinary light for the full period of twenty years. His Lordship proceeded: In this state of the authorities I think I must take it that the law is laid down in City of London Brewery Company *v.* Tennant, agreeing as that case does with the criterion expressed by Lord Cranworth in Clarke *v.* Clark, and that the plaintiffs, having an abundance of light left for all ordinary purposes of inhabitancy or business, are not entitled to relief on the ground that their extraordinary use has been interfered with. Unless, indeed, there is some such limitation of the right to light for ancient windows it is difficult, as Lord Hardwicke observed in effect in Fishmongers Company *v.* East India Company, to see how the ordinary extensions and improvements of towns could be carried on. If every house which has existed for twenty years is entitled to have all, or substantially all, the same light come to its windows as during the twenty years, no new houses could be built opposite to old ones unless at a distance which would impose on servient tenements an unreasonable burden, and might involve grave public inconveniences. Nor, if that were law, could there well be any presumption that so long as 45 degrees of light, or some approximate angle, is left there is no actionable wrong. It is not necessary in the present case to consider the question raised in Lanfranchi *v.* Mackenzie, whether a right to an extraordinary quantity of light for extraordinary purposes can be acquired by prescription.

Judgment was accordingly entered for the defendant with costs.

London Building Act: What is a Public Building?

At Lambeth Police Court, on 17th July, before Mr. Hopkins, Mr. Priestman Moses was summoned by Mr. Ellis Marsland, district surveyor for Camberwell, for failing to comply with a notice of irregularity served upon him under the terms of the London Building Act 1894. In April 1897 the Local Government Board made an order giving the control of children of defective intellect or physical infirmity to the Metropolitan Asylums Board. The Board came to the conclusion that the most effectual way of dealing with such children would be to locate them in different parts of London in small homes in close proximity to the centres at which the London School Board provide special instruction for such children. In pursuance of that decision the Board purchased a house in Elm Grove, Peckham, and proposed to make alterations and additions with the view of adapting it for the accommodation of fourteen or fifteen children. In carrying out this work the architect (Mr. Charles Henman) proposed to retain the original wooden staircase and to place an outside iron staircase as a means of escape from fire. Mr. Marsland, the district surveyor, took the view, however, that this was the conversion of a house into a public building, and that consequently the terms of section 68 of the London Building Act 1894 applied. That section requires that in every public building the floors of the lobbies, corridors, passages, and landings, and also the flights of stairs, shall be of fire-resisting material and carried by supports of a fire-resisting material.—Mr. Herbert Smith, for the defendant, argued that this was not a public building, and that in regard to this dwelling-house the Board were in the same position as a private owner.—In the result Mr. Hopkins upheld the district surveyor's contention and made an order requiring the defendant to amend the work in accordance with his (the surveyor's) requirements, but agreed to state a special case for the opinion of the High Court of Justice.

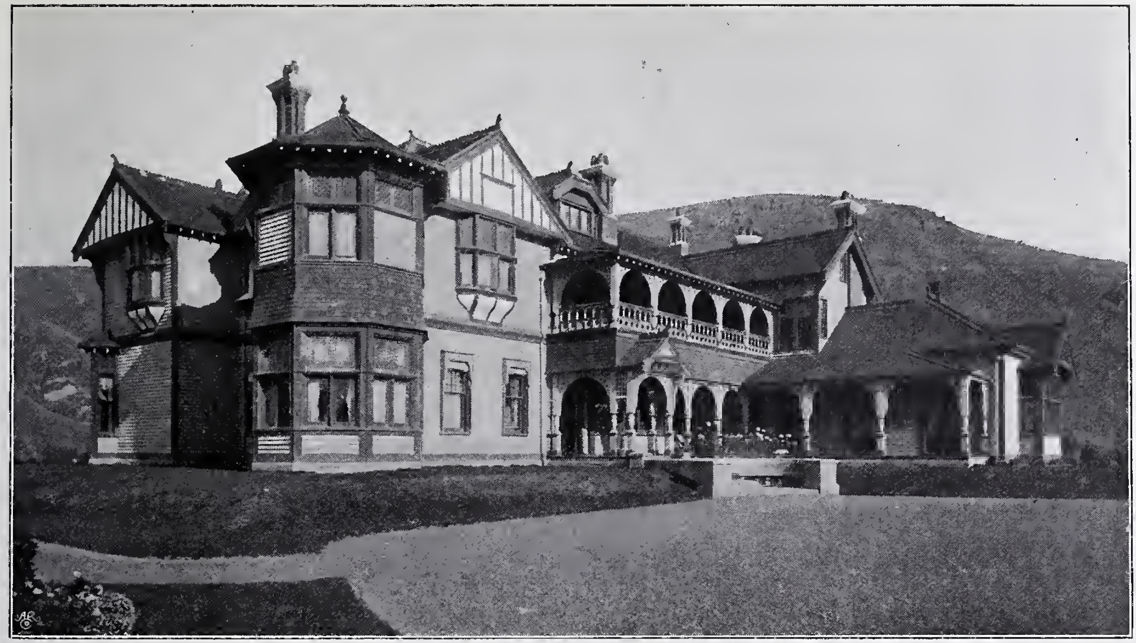


FIG. 1.—A "STATION" HOME CANTERBURY N.Z

ARCHITECTURAL ART IN NEW ZEALAND.

By S. Hurst Seager [*A.*], of Christchurch, New Zealand.

IN responding to the invitation of the Editor of the Journal to write an article upon the development of our art in this Colony I can but regret that it is impossible for me truly to entitle it the Architectural Art of New Zealand, and to bring before you examples showing the gradual process of development leading to distinctive forms of expression. Unfortunately there has been no true development; we have no style, no distinctive forms of art.

Many buildings, large and small, have been erected—telling, by their wealth of material and workmanship, of the advance and prosperity of the community—but the story is told in the forms of art developed in England, Italy, America, and elsewhere. Nor are there any interesting solutions of problems in the science of building to record; all our methods are those of the Old World; our materials and our conditions of life are not sufficiently distinctive to lead to any special mode being adopted.

That our cities are chiefly made up of architectural quotations, more or less grammatical, is perhaps only what might be expected, for fresh environment cannot possibly produce fresh forms of art in opposition to the force of traditions and precedents with which the artists and workers who have erected them have been imbued. With a knowledge of the principles which govern the ancient work it is possible only to the most gifted to free themselves from the forms in which those principles are embodied.

By judicious selection and skilful adaptation there is scarcely a modern requirement which cannot be met by the adoption of ancient forms, and the delight we experience in the reproduction is in exact proportion to the wisdom of the choice and the scholarly rendering that the work displays. Herein lies the chief cause for regret, for in our colonial practice the majority of buildings show that the choice has not been wise, and far too often the rendering is anything but scholarly. Inappropriate selection is seen on all sides, leading to a system of exogenous building, which, growing from without, leaves the essential internal arrangements to be fitted in as they may—ambitious attempts to reproduce the architecture of the Old World resulting in shams and deceits, which place the works in which they are seen far outside the region of art.

It may be said, and with perfect truth, that in unwise choice and unskilful rendering our architecture is only a reflection of the mass of architectural work in any modern city; for, go where you will, modern buildings fail, in the majority of instances, to satisfy to the full the demands of our art.

But the art of any time or place is not judged by the efforts of the majority; it is judged by the work of the master spirits of the time, by the best efforts of the few. The mass of buildings in most European capitals is but a foil, a dark background to the many brilliant architectural works seen within them. It is these that thrill us by their truth and beauty, that live in our minds when the memory of the rest has passed away, and it is therefore by these that our ultimate impressions are formed.

There are in New Zealand individual works of architecture which are completely satisfying, but they are too few and isolated to be regarded in any degree as a school. The works which occur with sufficient frequency to leave any impression as a whole are those which strike the beholder by the mass of material irrespective of the forms into which they are moulded, works recorded in the daily press as "handsome additions to our city architecture."

The only works which are truly characteristic of colonial life are the early wooden buildings put up by the first settlers [figs. 2 and 3]. These, though not by any means beautiful, are yet honest expressions of the wants of the settlers at that time. Among them may be found attempts to ape the dignity of stone construction, but they can at once be recognised as the clumsy efforts of carpenters doing their best under fresh conditions of early life in a new land. They are thus interesting as historical records, and on that account far less offensive than the nondescript class of works to which I have referred, erected in durable material under the title of "Architecture."

Among the early wooden buildings there yet remain in Christchurch some examples of Gothic timber work [fig. 4] which are charming relics of the wooden age through which the Colony passed. For public and commercial buildings stone or brick is the material now used, but for domestic architecture the traditions of the early days are still, with but few exceptions, followed.

There is one notable, and lamentable, instance of the use of wood for a public building—the Government Offices in Wellington [fig. 5]—which has the reputation of being the largest wooden building in the world. There was some reason why this building should have been of wood. Earthquakes are much more frequent in Wellington than in the other cities of New Zealand; and it is erected, moreover, on land which has been reclaimed from the harbour. Although, therefore, the selection of timber as the building material for this important work may to some extent be justified, there can be no excuse for the shams and deceits which are practised by the imitation of stone construction, coloured and sanded to make the deception more complete. The largest building in the colony thus gives countenance to the many architectural untruths spoken within it.

The Houses of Parliament are also of wood, of sham Gothic character, while the latest addition to them is a brick and stucco work not in any degree calculated to raise the public taste.

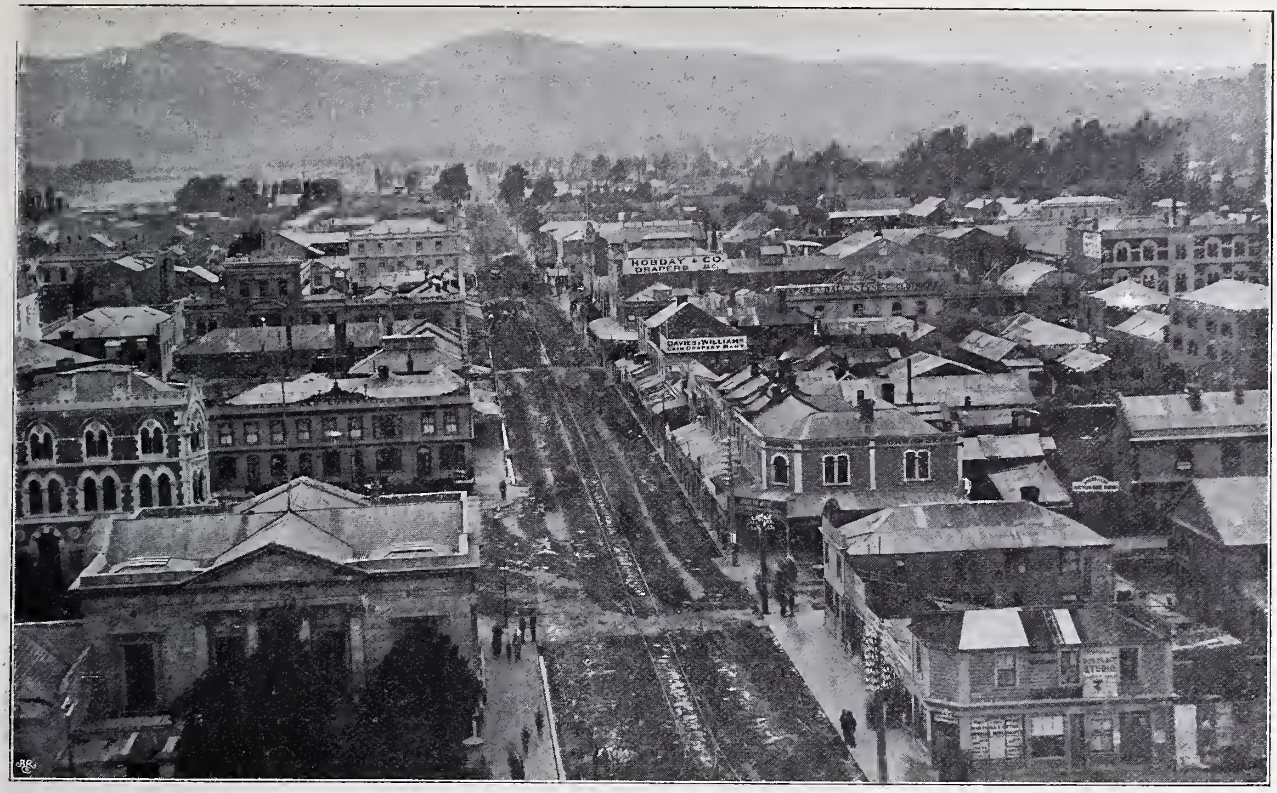


FIG. 2.—CHRISTCHURCH, N.Z., FROM THE CATHEDRAL TOWER, LOOKING SOUTH—SHOWING THE CITY EMERGING FROM THE TIMBER AGE.

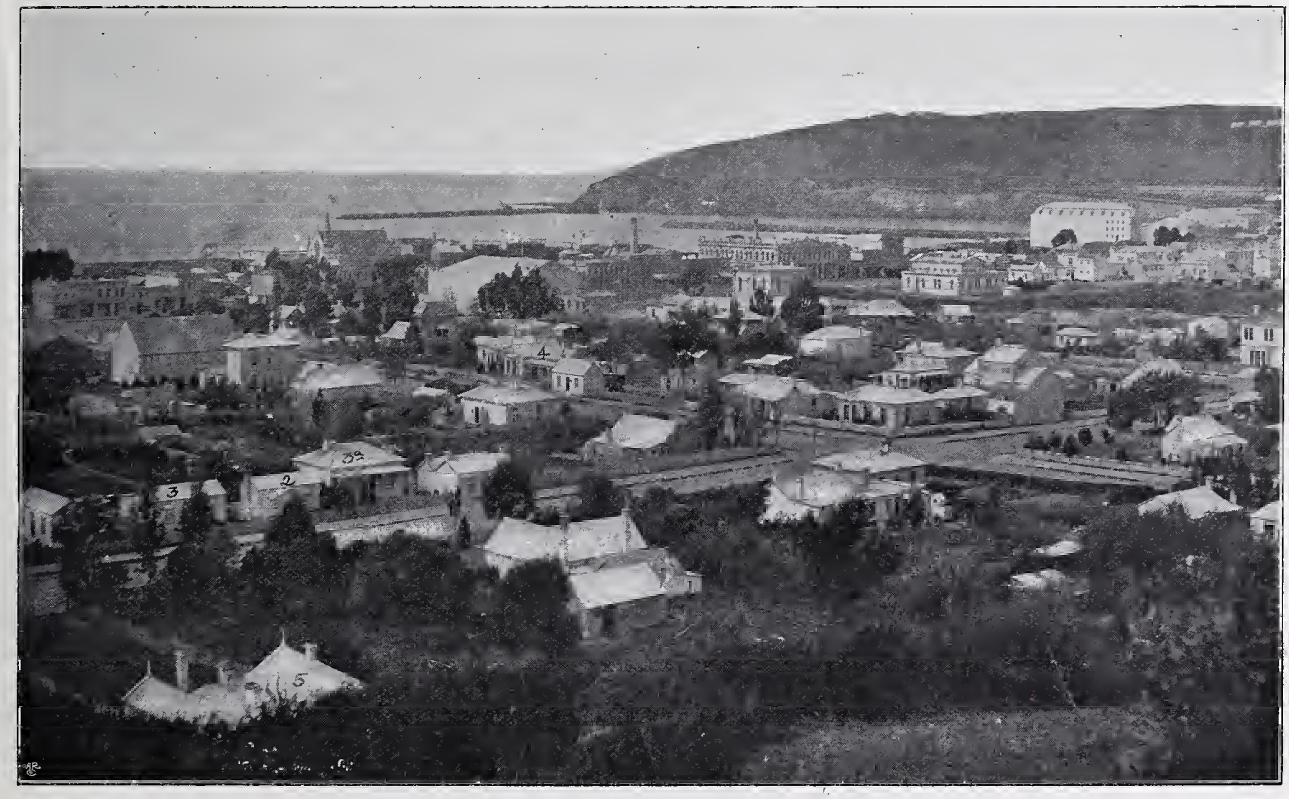


FIG. 3.—OAMARU, N.Z.—SHOWING TYPES OF EARLY WOODEN BUILDINGS.

Christchurch is fortunate in possessing certainly the most artistic block of Government buildings. They were erected for the Provincial Council of Canterbury before the Government of the Colony was centralised in Wellington. Though not now used for their original purpose they form a splendid memorial of the success which attended the efforts of the pioneers of the Canterbury settlement, and of the genius of its architect, the late B. W. Mountfort. Fortunately for the ecclesiastical art of New Zealand Mr. Mountfort made his home in the colony in the very early days, and has left for our admiration many examples of Gothic art, all giving evidence of a true artistic feeling and individual expression. He was the Diocesan Architect of Christchurch, and as such superintended the erection of Christchurch Cathedral [fig. 6]. The designs for this work were originally prepared by Sir Gilbert Scott, but were considerably altered by the adoption of stone in lieu of wood for the nave columns and arches, the clerestory and the spire. Thus, except in general form, the whole may be regarded as a fresh design. When the building is completed, by the erection of the transepts and chancel, in accordance with the detailed drawings prepared by Mr. Mountfort, it will be without question the finest church in the colony.

The cathedral at Napier, erected (with the exception of the tower) by Mr. Mountfort, is also an extremely interesting example of ecclesiastical art. It is built of red brick, with stone corbels, crosses, panels, and other ornamental features. The illustration of the interior [fig. 7] is a reproduction of Mr. Mountfort's own drawing.

Dunedin possesses two important Presbyterian churches—First Church and Knox Church—which are, especially the former, spoken of with admiration by those who fail to distinguish between the letter and the spirit of Gothic art. First Church, from its commanding position—standing as it does on a bold bluff some twenty-five feet above the lower level of the town—cannot fail to be impressive; but an examination of its details and those of Knox Church makes one regret that such laudable efforts should not have resulted in a greater artistic success. The general proportions of Knox Church, as seen from the main street, are very pleasing; but a building which shows thirteenth, fourteenth, fifteenth century window tracery on one façade can scarcely be regarded as possessing that unity of expression which a work of art demands.

The suburban and country churches are, with but few exceptions, built of wood; and among these those designed by Mr. Mountfort, and erected in various parts of the colony, stand as notable examples of simple, honest construction, leading to most pleasing results. Prebbleton Church [fig. 10, p. 491] is a typical example of his style. Of the many he designed each has some special feature, making it distinctive; yet in all there is an expression of individual feeling, giving them—simple and inexpensive though they are—a high place among our architectural works.

These examples have been followed with varying degrees of success by many others, and form as a whole, perhaps, the most distinctive forms of art in New Zealand.

It will thus be seen that the Church has done much more than the State for our art, and this in spite of several lamentable examples of shams and deceits, of which, without question, the Roman Catholic Cathedral at Wellington is the worst. Here we have a building of the dimensions of a parish church, copying all the features of a Gothic cathedral, and endeavouring by means of wood and paint to reach the grandeur and sublimity of Gothic architecture.

The schools and colleges, especially those of Christchurch and Dunedin, are excellent examples of Gothic. Canterbury College, by the late W. B. Mountfort, with its beautiful college hall and engineering school, the adjacent Boys' High School, by the late W. B. Armson, together with the School of Art and the Christchurch Museum, form a remarkable

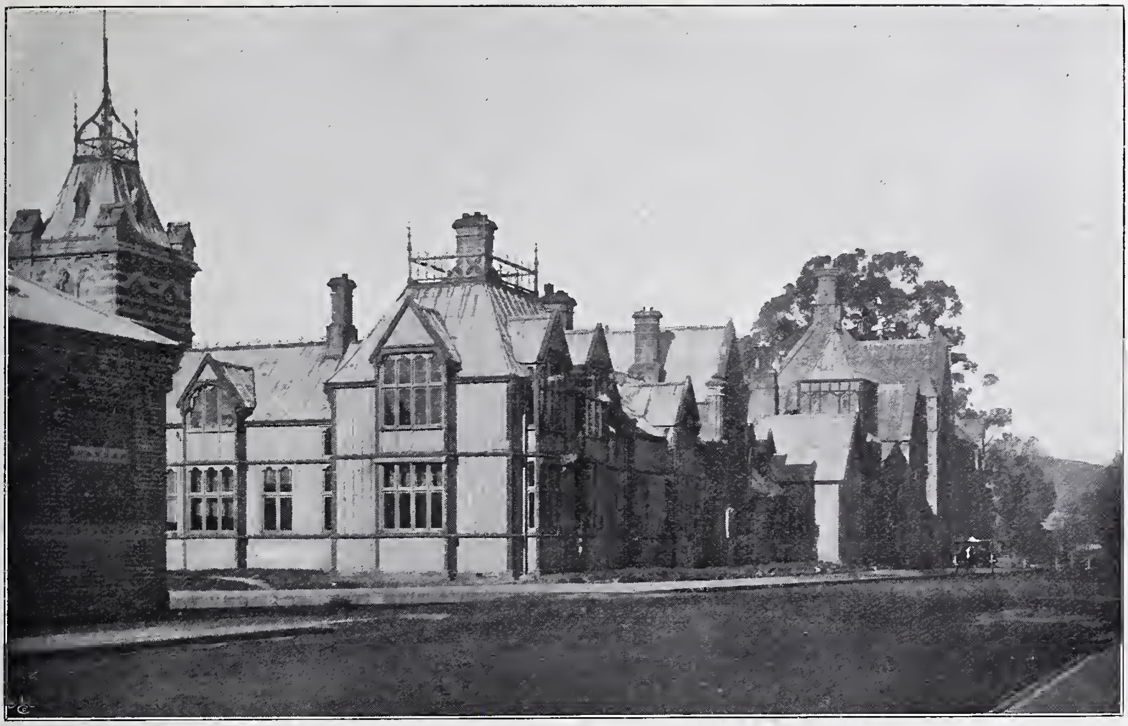


FIG. 4.—PROVINCIAL COUNCIL CHAMBERS, CHRISTCHURCH, N.Z., BUILT OF WOOD.

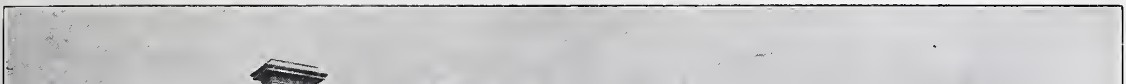


FIG. 5.—GOVERNMENT OFFICES, WELLINGTON, N.Z., REPORTED THE LARGEST WOODEN BUILDING IN THE WORLD.

group of scholastic buildings, of which Christchurch may well be proud. Such a group could not, I believe, be found in any other town of the same number of inhabitants.

The Dunedin University College takes equal rank with that of Christchurch, both as a work of art and in regard to the munificence displayed in its erection. In spite of the distinctly Scotch treatment of the tower, in honour of the founders of the city, it will not be difficult to discern that the conception of the art forms with which the structure is clothed is due to the same master mind which governed the erection of the kindred institution in Christchurch.

With but few exceptions the commercial buildings which have any architectural claim are based on some form of Renaissance work. Prominent among these stand the works of the late Mr. W. B. Armson, of Christchurch. He erected a large number of banks and offices in various towns, noticeable for their scholarly treatment. All are severely correct, and form excellent examples of the best work of the Palladian School. His most important work was the Bank of New Zealand, Dunedin. In Dunedin also are seen some of the best of the more freely treated Renaissance works. Of these the New Zealand Insurance Company's buildings is a good example.

The municipal authorities of New Zealand cannot generally be regarded as patrons of Art, even though their actual requirements have been supplied, in some instances, with a liberal hand. The municipal buildings do not include in any of our cities a town hall. The Art Gallery and Library of Auckland, erected by the Municipality to contain the magnificent library and pictures presented to the city by the late Sir George Grey, is based upon the French Renaissance of the time of François Premier, and although not a true example of the best works of that period is still a creditable work, and gains much from the extent of its façades and its commanding position. In mass and position the Municipal Building at Dunedin has also every advantage. It is built of white stone, and forms, in spite of the commonplace type of Renaissance which has been followed, a fairly imposing work.

In striking contrast to this stands the modest red-brick and red-tiled building of Christchurch [fig. 8]. Here the actual needs of the Council have been met in the most economical way, and the arrangement of essential parts alone depended upon for effect. It is situated on the bank of the River Avon, and is seen in conjunction and in harmony with the surrounding trees. It is worthy of note that the terra-cotta figures of Industry and Concord on the south front are excellent early works of Mr. George Frampton, A.R.A., which, though somewhat severely criticised by worthy councillors when placed in position in 1884, can, now that their author has risen to so eminent a position, be seen to possess a considerable amount of beauty.

The evolution of the house in New Zealand has been similar to that in most colonies. It can be seen in any of our towns—as at Oamaru [fig. 3], which gives a very fair representation of a group of primitive homes.

In No. 1, marked in the illustration [fig. 3], we have it in its simplest form—a divided rectangular wooden box with a lean-to roof.

In No. 2 [fig. 3], we have the same box with a pitched roof; and this placed in front of No. 1 gives the third type, No. 3, a four-roomed cottage of very common occurrence, varied by roofing the whole with a hipped roof, as shown at 3*a*. To the front of this was then added the verandah, at first as a protection from the northern sun, and afterwards as a decorative feature irrespective of the aspect.

To the end of No. 3 was then added a block similar to No. 2, placed so that the gable end is towards the front, and projecting sufficiently far to stop the end of the verandah. Thus

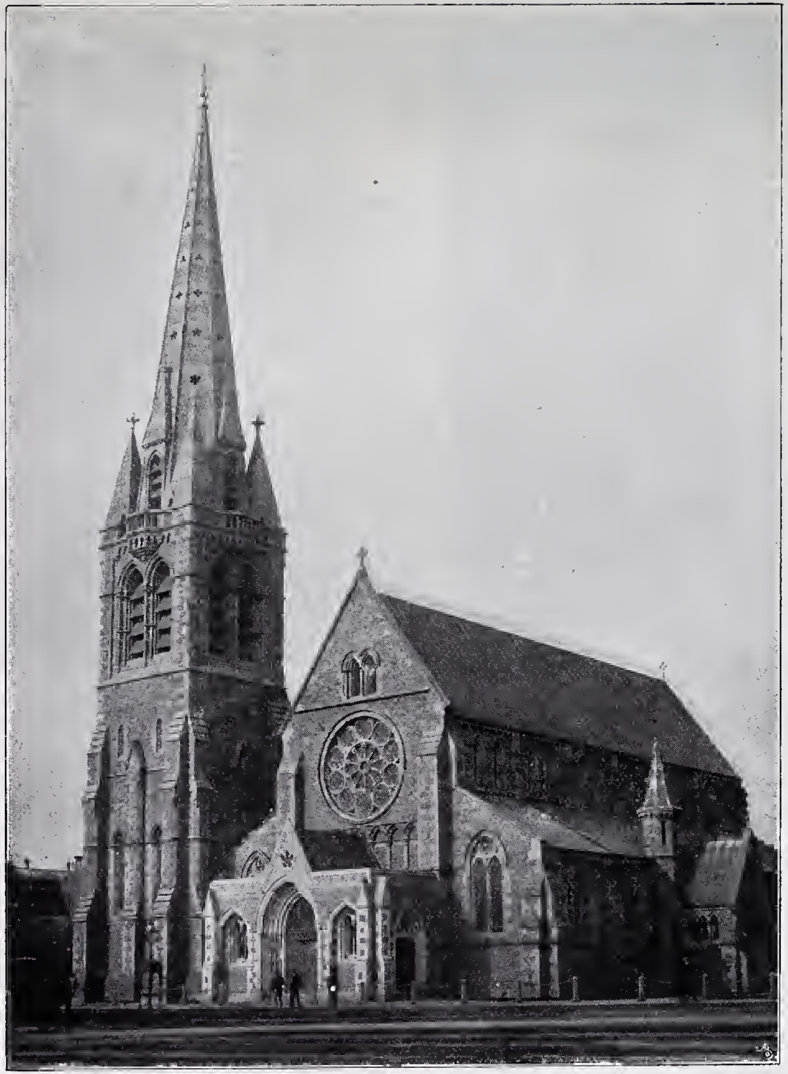


FIG. 6.—CHRISTCHURCH CATHEDRAL, N Z.

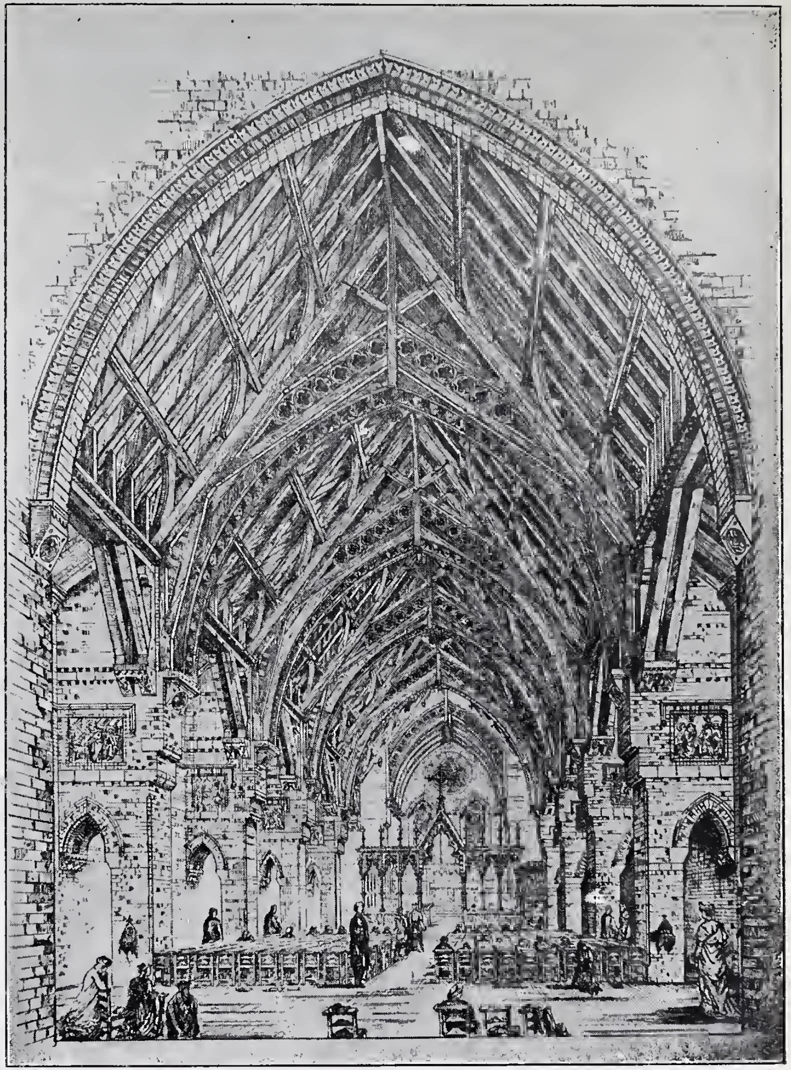


FIG. 7.—INTERIOR, NAPIER CATHEDRAL, N.Z.

we get No. 4, or the usual T cottage type, which, variously treated, is the foundation of the majority of houses erected to-day.

The next step was to add another block to the opposite end of No. 4, converting the T plan into an H plan, as at 5 [fig. 3], which has become largely adopted for country houses or "stations," where the extent of ground covered is of no moment. In the ordinary town house the extra accommodation is provided by adding a second story to the square or T plan. Any of these primitive types may, and have become, in the hands of trained architects, pleasing by the evidence of good, sound, and appropriate construction, by the consideration of the proportions, or by harmonious colouring. Still at their best they are but simple, unpretentious, home-like structures, built, not as the permanent home of the family, but as inexpensive houses to serve the needs of the day. They tell as plainly as works of architecture can of that feeling of unrest which exists in colonial life in its earlier stages. Entering upon colonial life is an experiment which may or may not succeed, so that behind any effort to make a home there has been the feeling that the anchor must not be too firmly cast. If the

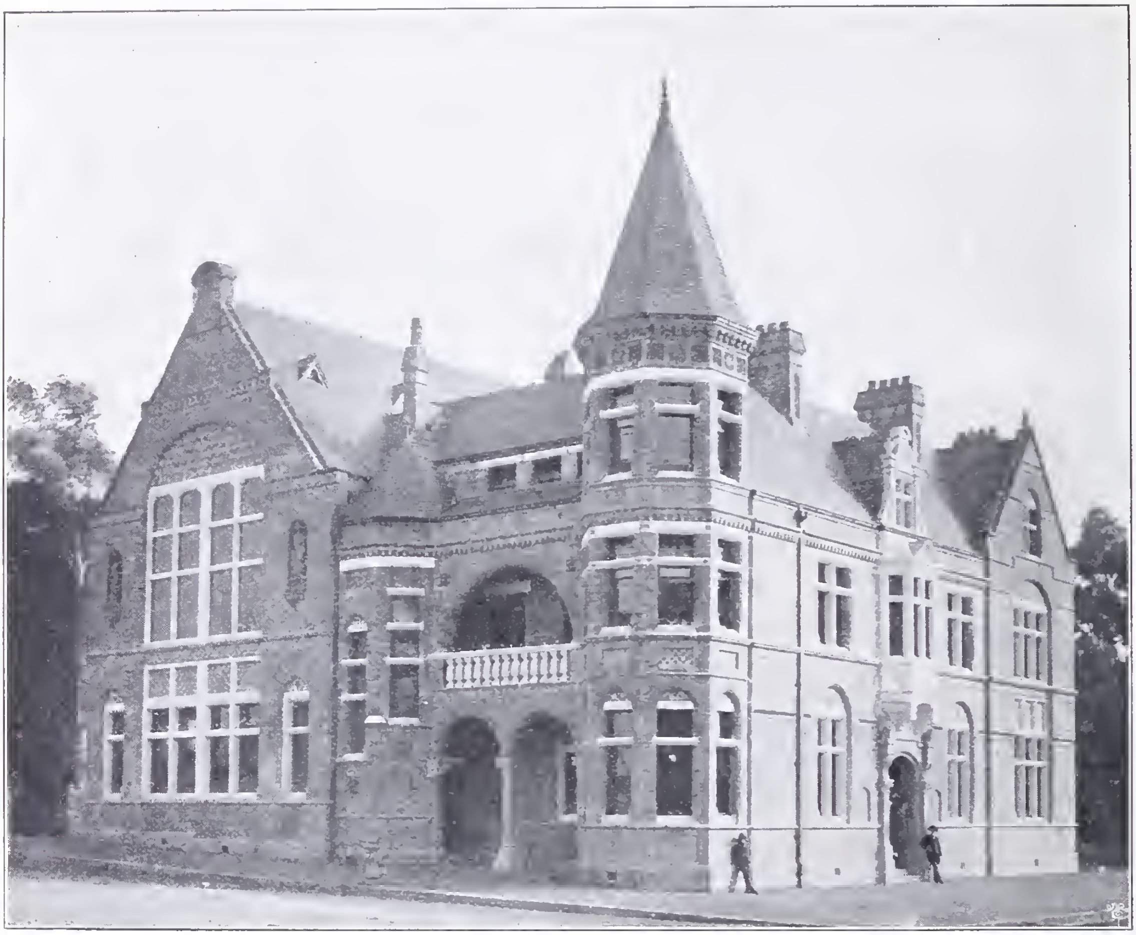


FIG. 8.—CITY COUNCIL CHAMBERS, CHRISTCHURCH .N.Z.

experiment fails in one colony or province there must be freedom to move to another, or perhaps to return " home," if circumstances permit or demand.

In addition to these feelings which have influenced the domestic architecture of the early settlers there is the fact that a larger proportion of the population is a moving one than is the case in older countries. All the banks, insurance, shipping, and mercantile companies, together with the Government, have offices of equal importance in the four principal centres—Auckland, Wellington, Christchurch, and Dunedin—and in some cases in the Australian colonies; any one of the officers is liable at any moment to be asked to undertake duties in a fresh centre.

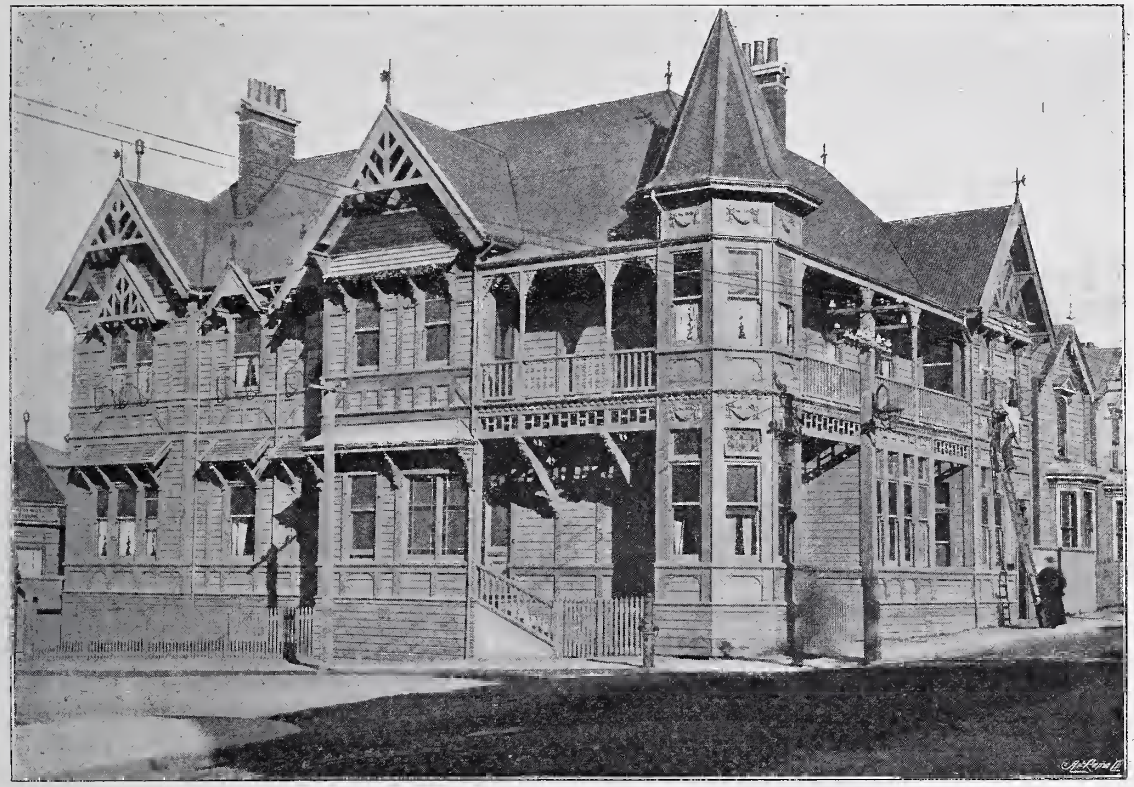


FIG. 9.—DR. MACKENZIE'S RESIDENCE, WELLINGTON, N.Z.

These, therefore, are the causes which have led to the ephemeral and inartistic character of the majority of our homes, standing as they do in violent contrast to the palatial and enduring character of the contemporary commercial buildings. These, in the greater number of instances, are erected by companies or corporate bodies, and no expense is spared to show how prosperous a concern is to be housed within them. That " nothing succeeds like success " is an adage which has largely influenced the expenditure on our city buildings; and hence we have, as a result, the directors or managers transacting their business in reproductions of Italian palaces, and entertaining their friends in homes absolutely devoid of any attempt at artistic expression.

That the converse of this principle should be followed will at once be admitted; for, while the mart, the store, or the office may well be based only on the beauty of utility, in our homes, where we have the leisure to enjoy, should be found the highest form of artistic expression that our feelings demand or our means allow. If the means are small, here, too, the beauty of utility must alone be relied upon, and is relied upon in several inexpensive, artistic homes which have lately been erected.

Now that some provinces have passed and others are reaching their jubilee, the ties which bind us to the land of our adoption are stronger, and there is a more widespread desire to live in houses that can satisfy the growing æsthetic needs. There are in each province to-day several examples in which care and thought have been displayed in the endeavour to reach a higher standard [figs. 1 and 9]. The result is not in every case all that could be desired, but a sufficient measure of success has been attained to make the outlook for domestic art a fairly bright one. It is true that to many that which to them is new is ugly; still the appreciation of good artistic work by those who have not hitherto had the opportunity of seeing it is sufficiently encouraging to make us feel grateful to those who have had the taste, and the courage of their opinions, to demand something higher than the ordinary colonial type.

As the illustrations show, there is nothing indicative of New Zealand in the general forms adopted; the sources from which they are drawn can at once be determined; but in No. 20 of the set of photographs which I and some of my brother architects here have the pleasure of presenting to the Library of the Institute, will be seen the first attempt that I know of to base the decorative features upon New Zealand flora and fauna.

In original decorative art work New Zealand architects are at a very considerable disadvantage. We have but few artistic craftsmen on whom we can rely, and even when full working designs are prepared there are but few workmen sufficiently skilled to carry them out. This is not so much the fault of the workmen as of the public, who have not hitherto given sufficient encouragement to the development of art. There is plenty of intelligence and aptitude among the young workers, and excellent decorative design work has been done by students of our Art School. The beaten copper work in No. 20 of the photographs above referred to is by a former student of the School of Art in Christchurch, while some powerful designs in colour have been produced at the Wellington School. We have excellent building materials; architects who have received proper professional training; plenty of workers, who, with encouragement, would develop into artist craftsmen. All that is needed is that the public should be educated to appreciate artistic work, and to this end the study of historical and modern art should unquestionably form part of the curriculum of our High Schools and Colleges. There can be but little advance on the part of our architects and artist craftsmen until the criticism of the public is an intelligent one, based upon a sound knowledge of the principles of art. This is more necessary in a new country than in an old one possessing historical examples. Here in New Zealand the only historical examples of Art we have are the works of the Maoris; and these, though excellent examples of savage art, are scarcely suitable as standards on which to found our national taste.

With the wealth of illustration which the modern methods of reproduction provide it is impossible that our art can make any independent progress; it will without question follow as best it can the progress made in the old world. In each province of New Zealand we can learn week by week, by means of illustrated journals, what is being done in England and elsewhere, while, unless we have time and opportunity for travel, it is impossible to know what progress our art is making in other provinces than our own, or what is being done in the other Australian colonies. We are isolated units, without means of communication to give us cohesion.

In time doubtless we shall be able to support a New Zealand journal devoted to the interests of art, in which our successes and our failures can be recorded, and the lessons learned therefrom taken to heart. Till then the guidance we receive from the mother country will without question be followed.

Christchurch, N.Z., July 1900.

⁂ Limitations of space admit of the reproduction of scarcely half the number of illustrations selected by Mr. Hurst Seager as necessary to convey an adequate idea of what is being accomplished by architects in New Zealand. Visitors to the Library can however inspect the series of photographs representative of the architecture of the four principal centres of population in the colony, which Mr. Seager has most kindly collected, and sent over for the purposes of the Institute Library. Those among them representing the works of Mr. De Clere, Mr. Mahoney, Mr. Clarkson, and Messrs. Mason & Wales are contributed by the architects themselves; those of the late Mr. W. B. Mountfort by his son, Mr. C. J. Mountfort; and the remainder by the author of the Paper.

"The older members of the Institute," Mr. Seager writes, "will be interested to learn that Mr. E. Dobson, the author of the excellent text-book on *Masonry, The Student's Practical Guide to Masonry*, and others which are recommended to students, is still living in Christchurch. He is enjoying a richly merited rest after a long and honourable professional career in the Colonies—first in Melbourne, and for the last forty-five years in New Zealand. He was one of the earliest members of the R.I.B.A., but resigned his membership on devoting himself to civil engineering."

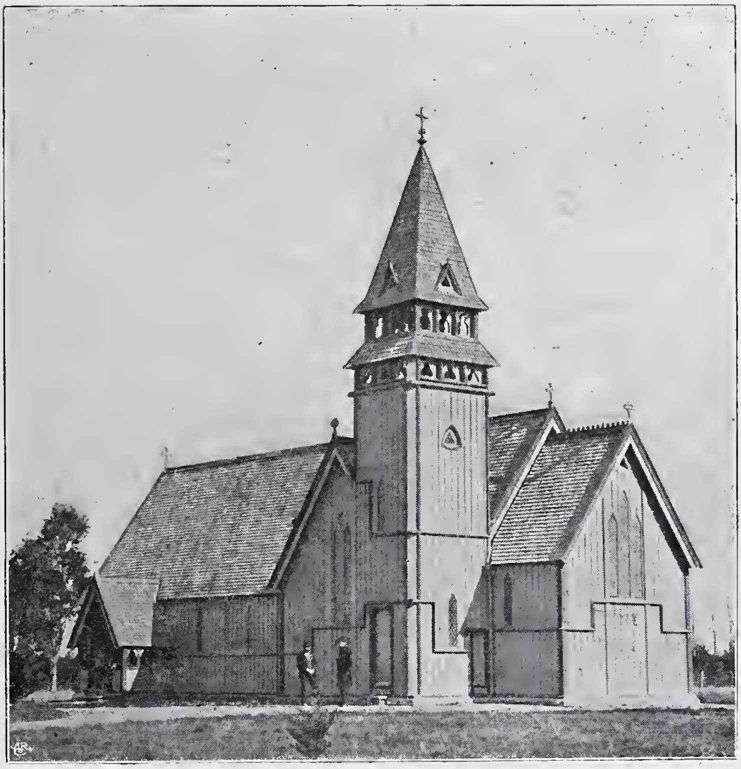


FIG. 10.—PREBBLETON CHURCH, N.Z. BUILT OF WOOD.

SOME PRINCIPLES OF CHRISTIAN ART HISTORICALLY CONSIDERED.

By J. Eadie Reid.

A Lecture delivered to the Northern Architectural Association at Southwick, near Sunderland, 8th September 1900.

In the beginning of the Christian era Art was so much a part of Paganism—one might say, the better part—that it is little wonder that the early Christian looked with dread upon paintings and statues which conveyed the most subtle impressions of a religion so debased and degenerate. It was an art that, in the eyes of the people, made their gods live, and pandered in its realism to the worst tastes of a licentious period.

Before Art could become the servant and minister of the true faith she had to pass through a time of purification. Rising from the stern delineations of an Egyptian priesthood, she had reached the lofty and refined perfection of Greece, only to sink into a mere expression of luxury and indulgence, the plaything of the frivolous Roman. While this mad *danse macabre* was whirling through Rome, underneath her streets, buried deep in the quarried tufa of the catacombs, in the gloom of those silent tombs where the Christian had sought refuge from the persecutor, was born the new Art, finding expression in the crude and meagre forms painted to mark the resting places of the martyred saints. At first, terrified almost at their own daring in venturing to give to their thoughts pictorial shape, fearful lest the mystic language of their art should betray them, they traced these symbols of their faith, thereby testifying their belief in Christ and His newly-founded Church. Technically speaking they still bore the impress of the Roman art, and in their stiffness and want of form never rose above a mere conventional rendering. As a rule they were painted upon a self-coloured ground; landscapes, for instance, were treated in tones of brown upon brown, green upon green, and greenish white upon red. Later, as the early Christian artists became more confident in their drawing of the figure, we find that a scheme of subjects was brought together and treated solely with reference to some hidden moral or devotional truth.

The characteristic feature is still symbolic rather than pictorial, but there is a distinct advance upon the symbolism of the earlier period. We have now rather rough representations of single allegorical figures or scenes which have a bearing on and a spiritual relation to the truths which are desired to be impressed. Some of the oldest symbols appear in this second period, such as the lion, the lamb, and the cross; but together with these individual symbols we find scenes from the Old Testament and the New which are considered as having a symbolic bearing on Christian doctrine. By arranging these symbols we are thus able to form a scheme of Christian iconography, as first conceived in Western art. For instance, the Sacrament of Baptism is symbolised by representations of Noah in the Ark and of Moses striking the Rock. Again, the Sacrament of the Lord's Supper is symbolised by the Miracle of the Loaves and Fishes, and that of Water changed into Wine. Resurrection is clearly shown forth in the Raising of Lazarus and in the Deliverance of Jonah. The subjects of Daniel in the Lions' Den and the Three Children in the Furnace have a real significance as triumph over suffering in those troublous times. The world-wide Mission of the Church is represented by the call of the Magi and by the Woman of Samaria. Christ as Guide of His Church is represented by figures of the Good Shepherd, with a Lamb upon His shoulder; also by Orpheus with his lyre drawing all nature to him. Again, we find the Church typified in what is known as the "Orante" or praying figure and by the Ship. All of these subjects may still be seen upon the walls of St. Callixtus and the other churches of the Catacombs.

St. Augustine, in speaking of this mode of interpretation of the Scriptures, insists "that when we find anything represented which does not correspond with the truth either of history or nature, it must be taken as a symbol suggesting some further idea beyond itself."

The conversion of Constantine, and consequently his crusade against Heathenism, were jointly the cause of a marked change in the attitude and relations of the Romans towards him; and finding himself unpopular in the capital city, he immediately, and with marvellous speed, built what was to be the capital of Christianity, as Rome had been the stronghold of Paganism. Byzantium, or, as we know it, Constantinople, became the centre of the Church. In every quarter of the town churches were erected. In the streets and public places statues of illustrious men and gods, brought from cities and temples, were set up as trophies of victory over the old religion. The churches of this new era, such as St. Sophia, demanding an art suitable for their decoration, took into their service colonies of Greek artists, who, while engaged upon these important works, founded an art which is now known as Byzantine. It is not, however, until the reign of Justinian that we find pictorial representations of the

Adoration of the Shepherds and the other subjects depicting actual scenes from the life of our Lord, and these were for purely illustrative rather than symbolical doctrinal reasons. In the sixth century Italy was reconquered by Justinian, who, in making Ravenna his western capital, introduced Byzantine art into Europe. The most noted examples are found in San Vitale and San Appollinare of that city.

Sad times were, however, in store for Christian art. During the reigns of Heraclius and his descendants war with foreign foes, as well as internal disturbances, practically suspended church building and decoration. Through Leo the Isaurian the storm of Iconoclasm burst upon the Church, and a lamentable destruction of pictures and statues took place in Constantinople. Strangers from Italy and the West saw with horror the sacrilege, and carried home the news with indignation. The frescoes and mosaics were scraped and hacked from the walls to be swept up by the public officials. Gregory of Rome immediately on hearing of this wanton edict took up arms against the Emperor, and in his pastoral letters warned the Italians of the great danger to their art treasures. His appeal was warmly and enthusiastically supported by his countrymen, and it is to their spirited opposition that we owe so many precious monuments of their art to-day.

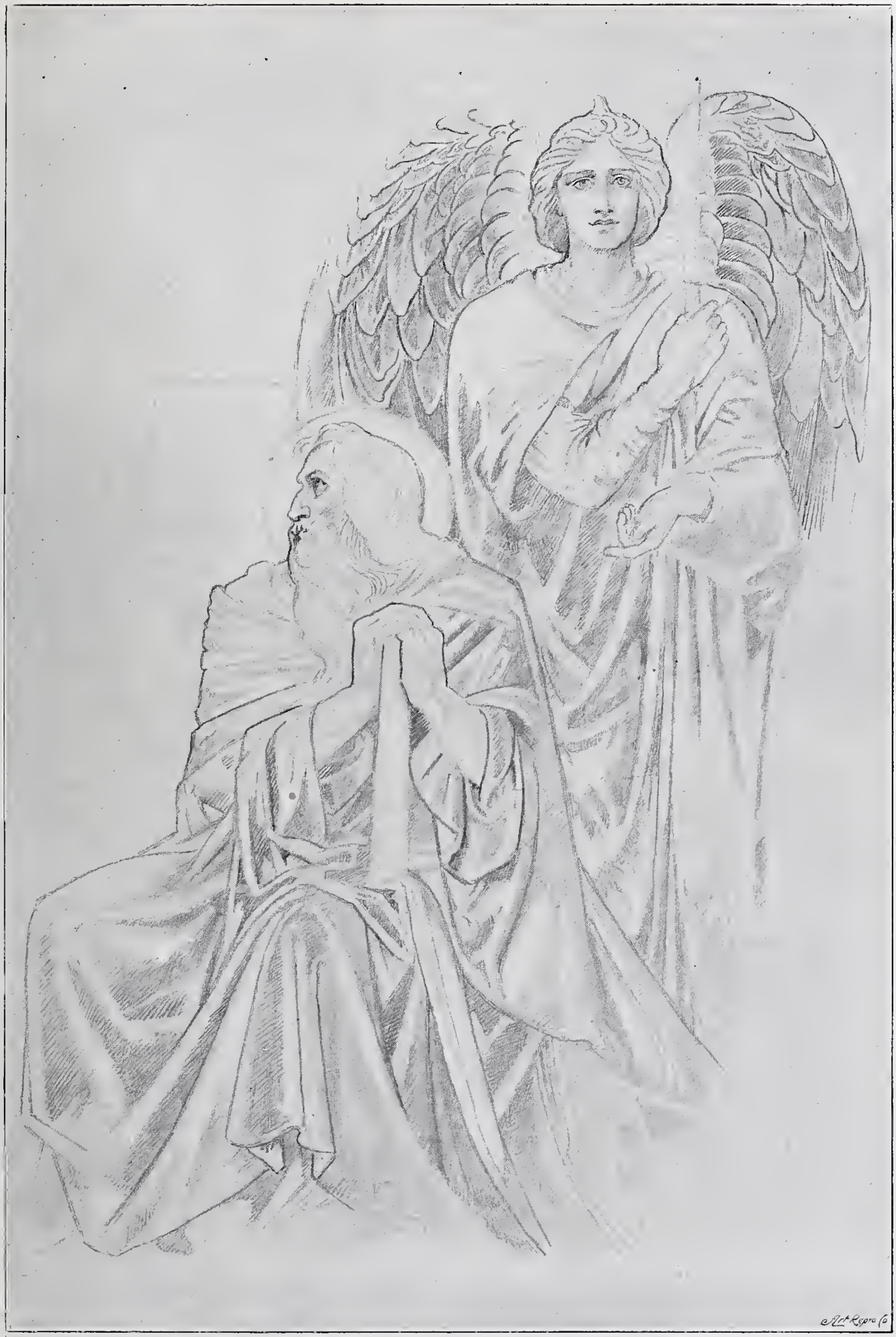
Byzantine art, nevertheless, in face of this terrible opposition, did not suffer materially, but, on the contrary, rose afresh, stronger in mastery of technique and design. Her artists continued to work and to hand on their principles and traditions to succeeding generations, who in carrying them to Italy laid the foundations of our Western art. With this revival also came incongruous images and grotesque representations, arising from the eager desire of the painters and carvers to reproduce the literary pictures of the prophets—forgetting that when translated into colour and form the dignity of the poetic imagery was lost; and thus we have the seven-headed, many-winged creatures. The company grew, as from century to century apocryphal legends crept in. To avoid this pictorial abuse, a scheme or system of Iconography was drawn up for the guidance of the painter, laying hold upon the mysterious connection between the Old and New Testaments. The date of the original manuscript is unknown. Mons. Didron on his visit to Mount Athos found the monks painting their pictures and frescoes according to its directions. The book being laid open in the workshop, the pupils read in turn, while the others painted and carried out the instructions. The copy of the Hermeneia in use was a transcript of a more ancient manuscript compiled by the monk Dionysius from the works of the "celebrated and illustrious Master Manuel Pansellinos of Thessalonica—a painter who was the 'Giotto of the Byzantine School'" and flourished in the twelfth century. This, again, in its turn undoubtedly embodied a much older manuscript; for instance, at the end of the sixth century Gregory of Tours describes Namatia, the aged widow of Namatius, Bishop of Auvergne, reading from a book on her knee for the instruction of the painter who was decorating the walls of the church which she had raised over her husband's tomb—thus showing the direct influence at that time of the Eastern art in France. This intercourse with the Eastern Church, it may be added, continued so long as the Greek Emperor commanded the Mediterranean.

In the early miniature paintings of France sacred subjects are constantly treated in accordance with the Hermeneia or Greek Manual—which deals not merely with the grouping of the subjects, but gives details and clear instructions as to the pose and treatment of the figures themselves. As we have noted, the monks of Mount Athos are to this day executing fresco panels and mosaics on the self-same lines as their predecessors of the sixth century. Each age, therefore, has brought degeneration, each replica losing some of the power and beauty of the design of the original artist who first answered the summons of the council held at Constantinople enjoining the disuse of symbols and the substitution of direct representations.

It is interesting at this juncture to realise that we, in Newcastle, are within easy reach of the birthplace of Christian art in England—Monkwearmouth. At the end of the seventh century Benedict Biscop, Abbot of Wearmouth, decorated his church with paintings brought from Italy for that purpose. The Venerable Bede tells us in his life of the Abbot "that he wished that all entering the House of God, especially those who knew not how to read, should have before their eyes the ever beloved images of Christ and His Saints. They were thus stimulated to meditation upon the blessings of the Divine incarnation, and reminded by the Last Judgment of the duty and necessity of strict self-examination." The same reasoning was used by St. John Damascenus in the eighth century. "Images speak," he writes; "they are neither mute nor lifeless blocks, like the gods of the Pagan. Every painting that meets our gaze in a church relates as if in words the humiliation of Christ for His people, the deeds and conflicts of the Saints. Images open the heart and awaken the intellect, and in a marvellous and indescribable manner engage us to emulate the persons they represent."

Turning again to the fifth century, we find the interesting testimony of St. Paulinus, Bishop of Nola, near Naples, as to the value of sacred paintings in his Basilica of St. Felix, built by him at Fondi. "If any should inquire why, contrary to the common usage, I have given personal representations of holy people in this sacred dwelling, I make the following answer: Among the crowds attracted hither by the fame of St. Felix there are peasants recently converted who cannot read, and who before embracing the faith of Christ had long been the slaves of profane usage and had obeyed their senses as gods. They arrive here from afar and from all parts of the country. Glowing with faith they despise the chilling frosts. They pass the entire night in joyous watchings; they drive away slumber by gaiety and darkness by torches. But they mingle festivities with their prayers, and after singing hymns to God abandon themselves to good cheer. They joyously stain with odoriferous wine the tombs of the Saints. They sing in the

Sketched by the Author from his Fresco at St. Columba's Church, near Sunderland.



ST. JOHN WITH ARCHANGEL. Sketched by the Author from his Fresco at St. Columba's Church, near Sunderland.

midst of their cups, and by their drunken lips the demon insults St. Felix. I have therefore thought it expedient to enliven with paintings the entire habitation of the Holy Saint. Images thus traced and coloured will perhaps inspire these rude minds with astonishment. Inscriptions are placed above the pictures, in order that the letter may explain what the hand has depicted.

"While showing them to each other and reading thus by turns these pictured subjects they do not think of eating till later than before. Their eyes aid them to endure fasting. Painting beguiles their hunger, better habits govern these wondering men, and, as they study these holy histories, chastity and virtue are engendered by such examples of piety.

"These sober gazers are intoxicated with excitement, though they have ceased to indulge in wine. A great part of the time being spent in looking at these pictures, they drink much less, for there remain only a few short minutes for their repast."

So far we have confined ourselves to tracing the influence of Byzantine traditions and methods upon the art of the West; but it would be unfair if we considered that all the practice of the West was based upon Eastern schemes and principles. Out of the Catacomb paintings there also rose a scheme which formed the nucleus of mystic poems in mediæval times, and was embodied in such works as the *Speculum Humanæ Salvationis*, the *Biblia Pauperum*, and the *Speculum Sanctæ Mariæ Virginis*. The first mentioned is usually illustrated by one hundred and eight subjects arranged in groups of four, three types to an antitype, *i.e.* twenty-seven scenes from the life of our Lord and eighty-one drawn from the Old Testament and heathen mythology. The *Biblia Pauperum* is supposed to have been written by St. Ansgar, the Apostle of the North, who was sent on a mission to the Danes in the reign of the Emperor Louis. In this case the illustrations are arranged in triptych form. There is no doubt that these miniatures were used as patterns by painters and sculptors.

Ugolino da Siena and Pisano worked upon the general plan laid down in these miniatures when they painted the Duomo d' Orvieto. So did the sculptors in San Miniato in Florence, and Santa Maria, a small and disused Basilica at Toscanella. Copies of these books are very rare. There are two beautiful manuscripts in Paris with miniature painting of the school of Giotto. It is to this art of miniature painting and its revivifying influence that we owe the breaking through of the hard and conventional line and colouring of the Byzantine.

It is not difficult for us to imagine how the painter, freed from the paralysing traditions, was able in the quiet of his studio to work out in small the conception intended finally to be worked upon the wall. Practically we have in the miniature the sketch or preparatory working drawing. In France as well as in Italy the painter made a free use of the miniatures for mural purposes. It is in Pisa, however, that we find a flourishing school of miniature painters, who, like Franco of Bologna, immortalised by Dante as being the pupil of Oderigi—"Bolognian Franco's pencil lines the leaves"—transferred their art from small to large works and betook themselves to painting on walls and panels. In passing we must note that the *arte di minia* refers to the minium or red peculiar to illuminating. (The minium, or vermilion as we know it, in Roman times was the colour of pomp and triumph, and used to paint the face of Jupiter and the bodies of victors in the triumphs.) To the early training of Giotto in the *arte di minia* we owe the adoption of his delicate colouring, in opposition to the deep, dark, sombre colouring of the Byzantine. With the freedom thus gained by studying a large composition on this small scale we find that consequently a more human interest is given to sacred subjects. The painter has borrowed his landscapes from nature, and his grouping from the life that he sees around him, and thus stands in strong contrast to the slavish followers of the later Greek method, who were content to go on repeating the stony stiffening of forms, copies from copies, faces whose original wistfulness has become in the hands of the mechanical workman a vacant stare. From this point in the history of Church Art it is not difficult, with the clues given, to follow its progress through the frescoed work of the later men, Giotto, Perugino, Raphael, and Michael Angelo, who has given with Titanic handling the completest and fullest working out of the scheme upon the roof of the Sistine Chapel. It would have been interesting and curious, if time permitted, to have studied together the marvellous and ingenious scheme evolved by Vincent de Beauvais in his *Speculum Universale*, which was followed by architects and sculptors in Chartres Cathedral, dealing with philosophy, theological, doctrinal, historical, and natural; but the enormous number of statues and bas-reliefs—1,840 on the exterior and 2,000 within—is sufficient reason for merely mentioning the scheme now.

In dealing with the symbolism of Art at such length it has been my aim to try and realise for you the unique importance of the artist—whether architect or painter—as a teacher of religious truths, and also to show how the Church has ever been ready to give him an opportunity to exercise his talents. At the same time we must not forget that the Church painter has ever been willing to put himself under her guidance, and in accepting this position has necessarily made many sacrifices in her service. He has been content not to work for his own fame, and in many cases even his name has been lost to us. Out of the great army of Church painters only a few of the most prominent men are known. How many men, for instance, are classed under the school of Giotto or of Raphael! What is known of the men who designed and executed the mosaics in San Vitale or San Appollinare at Classe? How many paintings are attributed to great names which were really executed by their followers? Surely in all this there must have been a stronger motive than the mere exercise of Art!

When the skill of the painter became paramount in the period of the Renaissance, Art for a second time became more or less Pagan. Everything was sacrificed to the science of Art, to colour, form, handling (the despair of the student of to-day); but of thought or deep feeling we have little or none. The field in which men gleaned their inspiration was that of Pagan mythology; the scenes which pandered most to the dissolute manners of their patrons were the most favoured; from the broad expanse of frescoed wall the painter dwindled to the narrowed limits of the gilded frame. No longer a teacher, he became a competitor with the jeweller in the world's market, a hunter after novelty, seeking to catch the eye of the public by some *tour de force* of colour or composition. The paintings which dealt with higher thoughts and subjects are but small in proportion to the enormous quantity of canvas which has been employed in the headlong pursuit of art. Something of the same feeling which the early Christian felt towards the art of Classic times was again experienced by the Florentine painters moved by the eloquence of such men as Savonarola. Again, we trace with sadness the

ST. MATTHEW. Sketched by the Author from his Fresco at St. Columba's Church, near Sunderland.

decadence of Italian art as we pass through her galleries. There have been many efforts to revive Christian art in later times, both in France and in Germany, as shown in the work of Overbeck and his followers, who strove to return to the purer and simpler methods of the pre-Raphaelite painters. And in our own day we find the school which has been truly styled pre-Raphaelite. We must turn to the work of the early painters, such as Giotto and Fra Angelico, to find sincere and simple faith ; to find subjects treated with directness of thought and love, convincing and bringing you into the picture and making you part of it. There is no feeling of the foot-lights, no barrier of frame which shuts you out. You move with the people represented. To do this successfully the painter must of necessity identify himself with his subject. He must, like the actor, enter into the spirit and mind of each individual on his panel or wall. He must believe sincerely in that which he paints. It must of necessity be a living reality to him. Therefore to the sceptic it must be an utter impossibility to paint religious subjects. His colour may be fine, his drawing may be faultless, but his picture will never convince. It will lack sympathy, and you cannot but feel that the work has not been of love but of commerce.

There is but one word more I should like to add, and that is in reference to the relationship of painter and architect. The originator of the building, the artist who first saw in his mind's eye the perfected structure raised in beauty and enriched with carving and colour—surely his work has not ceased when the last stone has been raised into its position. He has a right to say what is proper and what is fit to carry out his original scheme. The true decorative artist would never venture to design without learning and endeavouring to carry out the ideas of the architect. The realisation of the designer's vision of the perfect building must be the end in view—the painter following in his conception the limitations of the architecture, and the architect looking forward to the day when colour will have added fresh charms to his mouldings and wall-spaces—until the whole unites in one grand pæan of praise to Him whom we worship and serve. Each completed work is in itself an act of worship and adoration. In the words of the ancient painter Cennini, "whether through reverence or love, let all those persons who feel in themselves any kind or manner of knowledge or power to help and adorn these principal sciences with some jewel put themselves forward without bashfulness, offering this little knowledge which God has given them."

⁂ The illustrations in Mr. Reid's Paper are from drawings he has specially prepared for the JOURNAL of parts of an extensive fresco recently painted by him in the semicircular apse of St. Columba's Church, Sunderland, of which Mr. Hodgson Fowler [*F.*] is the architect. In the upper portion of the fresco appears Christ enthroned, surrounded by angels and cherubim. Below the angels, and flanking the throne on both sides, stand the archangels with folded wings. Beneath them are the four Evangelists, St. John (as seen in the drawing reproduced) being represented as white-bearded, according to the tradition of the Greek Church. Beneath the Evangelists golden clouds separate this upper portion which covers the semi-dome, from the lower portion which covers the vertical wall of the apse below the springing of the vault. The lower portion represents the river Wear at Sunderland, as that "mystic mid-region" of woodland and estuary where the early Church teaching from the South, as represented by Saints Gregory, Paulinus, Alban, Margaret, and Joseph of Arimathæa, met the teaching from the North, as represented by Saints Columba, Hilda, Cuthbert, and Aidan, and the Venerable Bede. The saints stand on either side of the river which flows into the dawn-lit North Sea. On the north bank the still existing tower of Monkwearmouth, built by the Venerable Bede, appears in the distance. The above description is due to the kindness of Mr. Frank Caws [*F.*].—[ED.]

INCORP.
1837
1887

9, Conduit Street, London, W., *29th Sept.* 1900.

CHRONICLE.

Alterations in By-laws 25, 29, 30: Official Sanction.

At the Council Chamber, Whitehall, the 15th day of May 1900, by the Lords of Her Majesty's Most Honourable Privy Council.

Present: The Lord President, The Earl of Kintore, Sir Richard Webster.

Whereas there was this day read at the Board a letter dated the 9th day of May 1900 from Messrs. Markby, Stewart, and Co., transmitting certain Resolutions of the Royal Institute of British Architects, passed at a Special General Meeting of that Institute held on the 5th day of March 1900, and confirmed at a subsequent Special General Meeting held on the 19th day of March 1900, altering By-laws 25, 29, and 30 of the By-laws of the Institute:

And whereas by Sec. 33 of the Supplemental Charter of the Institute it is provided that no By-laws made by the Institute shall be of any force or validity whatever unless and until they have been approved by the Lords of the Council:

Now, therefore, their Lordships, having taken into consideration the said amending By-laws (a copy of which is hereunto annexed), are pleased to approve the same.

A. W. FitzRoy.

By-laws referred to in foregoing Order of Council.

By-law 25.

The words "thirty-six" in the first line to be altered to "thirty-eight," and the word "two" in the second line of Section (*a*) to be altered to "four."

By-law 29.

The second sentence to be altered so as to read "Any Associate shall be eligible to serve as an Associate-Member of Council."

By-law 30.

The word "three" in the seventh line to be altered to "six," and the words "but the names of Members of the existing Council shall be distinguished by an asterisk" in lines 22 and 23 to be omitted.

Registry for Partnerships.

To meet the convenience of members the Council have decided to open a Register at the Office of the Institute for architects desiring partners in their practices. Applications to be placed on the Register should be made to the Secretary, who will be happy to put such members in communication with each other. It would be desirable for members to give the Secretary sufficient indication of the scope and nature of their practice to enable him to avoid obviously useless introductions. All information would naturally be regarded as confidential. The Council do not contemplate the conduct, through the Secretary, of partnership negotiations, and will not accept any responsibility in the matter.

The Roman Forum.

At the General Meeting of Monday 12th November Professor Lanciani [*Hon. Corr. M.*] will read a Paper, from the architectural point of view, on recent discoveries at the Roman Forum. This, the second meeting of the session, will be held a week earlier than would otherwise have been the case, so as to meet the convenience of Professor Lanciani.

Two Eighteenth-Century Architects.

The President, Mr. Wm. Emerson, visited Bath on the 21st inst. for the purpose of unveiling the tablets erected by the Corporation on the houses in the city formerly the residences of the two architects, John Wood and his son, to whom Bath is indebted for so many splendid examples of residential houses. The first ceremony was at 24 Queen Square, where Mr. Emerson, at the request of the Mayor (Mr. R. E. Dickinson, M.P.), unveiled the tablet over the front entrance. It bears the inscription, "Here lived John Wood. B. 1704. D. 1754." He said Bath had more reason to be grateful to the Woods than to any of the other great people to whom tablets had been erected, because John Wood grasped the problem of laying out the city. He had the foresight to see that the town must be laid down at the very beginning in wide streets, open spaces, and good squares. Many of our towns, the Metropolis particularly, had been absolutely spoiled by the want of such foresight. To John Wood, senior, they owed first of all the lines of the city, and then many of its beautiful buildings, which in composition and detail were not inferior to works of the more celebrated architects of the period.

The company then adjourned to 41 Gay Street, upon the front of which the following memorial was unveiled: "Here lived John Wood, junior. B. 1727. D. 1781." Mr. Emerson said that John Wood, junior, was the worthy son of a worthy father. He worked for a number of years in conjunction with his father, and was responsible for that very street of which they were at the corner (Gay Street) and the Circus. He also built the Assembly Rooms, the York House Hotel, and a number of other buildings. Whether he was equal in greatness to his father was a question he need not go into, but at any rate both he and his father did very beautiful work for Bath. One thing the Woods did in conjunction with Ralph Allen was of extreme utility—viz. the re-opening of the Bath Stone Quarries and the building of Prior Park. The re-opening of the quarries gave facilities to the Woods for carrying out all their works in the city, and from this commercial as well as from the artistic point of view the city owed a debt of gratitude to them and to Ralph Allen.

Subsequently Mr. Emerson was entertained to luncheon at the Guildhall by Mr. C. B. Oliver, himself an architect and a member of the Tablets Committee. Among those present were Mr. John Slater (*Vice-President R.I.B.A.*), Mr. Frank Wills [*F.*] (*President of the Bristol Society of Architects*), Mr. H. Dare Bryan (*Secretary of the Bristol Society*), the Mayor, and Canon Quirk.

In proposing Mr. Emerson's health, Mr. Oliver alluded to the work Mr. Emerson had carried out in India, at Allahabad and Bombay, and also to his designs in England, including St. Mary's, Brighton; St. Mary's Hospital, and Hamilton House on the Embankment. In responding, Mr. Emerson congratulated the city on honouring the memory of the Woods, because it was a curious fact that in many instances architects were ignored and forgotten. John Wood was one of the first to conceive the idea of laying out a town by a number of distinct buildings in blocks, and all arranged so as to form one homogeneous design. Wood was practically the first architect to carry out such a conception. Inigo Jones did something of the kind in Covent Garden, but Wood was the first to conceive and carry out the idea of uniting separate dwellings in great blocks. In looking round his splendid works, such as the Circus and Queen Square, one could not but regret that he was not given the opportunity of carrying out buildings of a more important and monumental character; that he would have done them well was shown by his designs in Bath. The quiet dignity and repose characteristic of his work should serve as a lesson to some architects in the present day, when there was such a rabid striving after originality, at no matter what cost of beauty or repose. The work of the Woods was a lasting one, for the lines upon which they laid out the city had no doubt guided the authorities in making their more modern streets. In conclusion, Mr. Emerson said the city of Bath was to be highly congratulated on the buildings which had been recently erected. He trusted that as time went on they would continue to exercise a wise control, and hold in check the craze for novelty which marred so much of the architecture of to-day.

A Bishop's Tribute to Architects.

Mr. Frank Caws [*F.*], of Sunderland, sends an account of the visit of the Northern Architectural Association on the 8th September to Southwick, near Sunderland, to hear the Paper by Mr. J. Eadie Reid on "Some Principles of Christian Art historically considered" (printed on foregoing pages), and to inspect the great fresco at St. Columba's Church upon which Mr. Reid has been for a long time engaged, and which is now nearing completion. The edifice is a fine example of Basilican church architecture by Mr. Hodgson Fowler, and the fresco covers the whole of the wall and semi-domical vault of the circular apse behind the altar. Prior to the delivery of the Paper, Bishop Saudford, who presided, said he felt glad to have an opportunity of giving some expression to his sense of obligation to architects and their brother artists for the invaluable service they had rendered, and were rendering, to the cause of religion, a service which in civilised countries had secured for them so many valuable landmarks of history. As one who had lived long in a new country (Tasmania), he could testify to the great contrast between new and old countries, and in nothing was it more strongly marked than in the absence from the former of such national landmarks as it was the privilege and the glory of the architect to provide. He felt constrained to express on behalf of the clergy in general, to whose care the preservation of their national monuments of ecclesiastical architecture was largely entrusted, their great indebtedness to the advice and counsel of architects, whose skill and gifts as masters, both constructively and æsthetically, of the art of building were so valuable. In availing himself of the architect's aid, the clergyman soon realised that he had gained in him not merely a professional adviser, but a friend and referee whom he could consult for guidance in other matters besides the mere treatment of buildings. The profession of the architect embodied that of a great teacher. All art was a powerful means of instruction; but no branch of it was so eloquent a teacher as that of architecture, exerting as it did a moulding and ennobling influence on mind and character. Some might urge that this was rather the function of books than of buildings; but for a hundred persons who read books once, hundreds and thousands daily came under the spell and influence of the noblest efforts of architectural genius. As one of the clergy, he felt that he could not express too often or too earnestly their deep indebtedness to architects, and the desire of the clergy to co-operate with them in carrying out those great purposes to which their art and skill were devoted.

The late Lloyd Tayler [*F.*].

The Australian papers announce the death on the 17th ult. of Mr. Lloyd Tayler [*F.*], Hon. Sec. R.I.B.A. for the Colony of Victoria, and President of the Royal Victorian Institute of Architects.

Mr. Tayler was born in London sixty-eight years ago, and was educated at Mill Hill Grammar School, Hendon, and at King's College, London. In 1851, after serving his articles with an architect, he went to Victoria, and shortly after joined his brother in squatting pursuits in New South Wales. Subsequently he tried his fortune on the Mount Alexander goldfield, where he was very successful, and at the end of two years returned to Melbourne. In 1855 he commenced to practise as an architect, and soon achieved some notable successes. He was responsible for the erection of some of the largest and most important public buildings in Melbourne and Adelaide, in addition to numerous private residences of the best class in and around Melbourne. Amongst his designs may be mentioned those for the Melbourne Exchange, National Bank, Australian Club-house, and the New Zealand Loan and Mercantile Agency Company's offices in Collins Street; St. Mary's Church, Hotham; St. Philip's, Collingwood; St. Andrew's, Brighton, and other churches. His designs for the Parliament Houses in Adelaide and for the Bank of South Australia were selected in competition. In 1875 Mr. Lloyd Tayler visited Europe, when he was elected Fellow of the Institute, and spent two years in travelling. After his return he obtained the second premium for his design for the Melbourne International Exhibition, of which he was appointed a commissioner, and was awarded, in Sydney, a certificate and medal for his design for the Exhibition there. On frequent occasions he acted as professional adviser to the Government, and recently was one of the judges of the plans for the new Central Railway station. Since the inception, in 1871, of the Victorian Institute, he had been associated with it, and in 1886 he was elected president. Mr. Tayler's interesting Paper on "The Architecture of the Colony of Victoria" in the last volume of the JOURNAL will be fresh in the recollection of members.

The late Henry Greensmith Wade [*A.*].

News has reached the Institute of the death of another Colonial member, Mr. Henry Greensmith Wade, of Papatoitoi, near Auckland, N.Z. Mr. Wade had been an Associate of the Institute since 1881. He served his articles with Messrs. S. & J. Cargill, of New Busford, near Nottingham, and was for a time Assistant Surveyor to the Local Board, Busford. He emigrated to New Zealand in 1863.

NOTES, QUERIES, AND REPLIES.

The University of London and Architecture.

The following letters, addressed to the Editor, have recently appeared in *The Times* :—

From the President R.I.B.A., Mr. Wm. Emerson,—

SIR,—I have read with much interest the letter in your issue of the 17th inst. by "A London Graduate." Not being a member of the University, I am unable to enter into the difficult problem of reconciling the interests of the external students and of those connected with the various schools of the University, but I cordially agree with your correspondent when he says that the new University "should seek to ennoble and liberalise some of the higher professions by bringing them for the first time within the scope of University influence."

The profession to which I have the honour to belong, combining as it does in a high degree both art and science, seems to me peculiarly fitted to receive the recognition and encouragement which the newly constituted University might render it. The Council of the Royal Institute of British Architects have felt this very strongly, and when the Cowper Commission was appointed we obtained permission to attend and give evidence before the Commission as to the nature of the efforts which for some years past the Institute has been making, by the development of its examinations, towards improving the education of architectural students, whose numbers have so largely increased of later years. In the Report of that Commission it was recommended that the Royal Institute of British Architects should nominate one member of the new Senate, and that Architecture should be recognised as one of the branches in the Faculty of Applied Science. If these recommendations had been adhered to, official recognition of Architecture, and of the Royal Institute as one of the agencies "concerned with the intellectual life of London," would have been of great public value; but, unfortunately, in the Act of 1898 this was entirely ignored, and no mention of Architecture or of the Institute occurs in the "Statutes" for the University. The Council of the Royal Institute of British Architects endeavoured to induce the University Commissioners to meet a deputation to discuss the matter, but without success.

When one sees what has recently been done by the Victoria University in this country and by nearly all the Universities in the United States in deciding that a systematic course of study in Architecture, equally with Law, Medicine, and Engineering, should be recognised as one of the roads towards a University degree, the lack of this recognition in the new University of London is much to be deplored.—I am, Sir, your obedient servant,

WM. EMERSON, *President R.I.B.A.*

From Mr. W. H. Seth-Smith, President A.A.

Sir,—Allow me to support all that the President of the Royal Institute of British Architects says in his letter of the 20th inst. as to the claims of Architecture to recognition by the University of London.

The Institute, as the examining body for the United Kingdom and its colonies, and the Architectural Association, as the principal teaching body of the profession, have worked strenuously and successfully for many years to systematise and raise the standard of architectural training.

Both Societies therefore reasonably looked for encouragement from the new University.

The reason that no such recognition has so far been given is doubtless due to the essentially artistic element in our training, a quality which, of course, exists quite independently of academical education.

Few will, however, dispute the advantage to every architect of a liberal general education, and, when one considers how much architectural design has been, and must in the future be, modified by scientific construction and scientific sanitation, there is surely insufficient reason for the University's exclusion of Architecture, especially as our curriculum embraces all the subjects needed to qualify an architect in building construction, as well as those which may make him an artistic designer.—I am, Sir, your obedient servant.

W. Howard Seth-Smith, *President A.A.*

From Mr. T. Bailey Saunders, Secretary to Lord Davey's Commission,—

Sir,—The President of the Royal Institute of British Architects appears to think that the interests of the profession of which he is the official head have been in some way sacrificed during the reconstitution of the University of London. In his letter in your issue of yesterday he complains that the representation which Lord Cowper's Commission proposed to assign to the Institute on the Senate was afterwards taken away; that the recognition which it desired to give to Architecture as a branch of a faculty of Applied Science has not, in fact, been given; that the work done by the Institute and the Examinations which it holds have been ignored; that the Statutes framed by Lord Davey's Commission contain no mention of Architecture; that that Commission was unwilling to receive a deputation anxious to urge the claims of the subject; and, finally, that the lack in the University of any systematic course of study in Architecture, equally with Law, Medicine, and Engineering, is much to be deplored.

I feel sure that the President, together with all who desire to promote architectural education in London, will not be displeased if his letter can be shown to take a too desperate view of the facts. Will you permit me, Sir, as having held the office of Secretary to Lord Davey's Commission, to suggest a different way of interpreting them?

The University of London Act of 1898, in fixing the constitution of the Senate, did not, it is true, provide for any representation to be given to the Institute. But neither did it mention the Royal Society and some other distinguished bodies on which Lord Cowper's Commission desired to see representation conferred. These bodies were excluded in accordance with the terms of a certain compromise to which the Act gave effect, and which enabled the Act to pass. If in so far therefore the President's complaint is well founded; if the Institute was excluded from direct representation on the Senate, it was excluded in good company. But in no other respect is there, I think, much cause for dissatisfaction in regard to the position which Architecture holds, and may hold, in the University. The President is technically right in saying that the Statutes do not mention the subject; but if he will turn to those dealing with boards of studies he will find that certain boards enumerated in the annexed regulations are to be appointed, and amongst them "A Board of Fine Art, including Architecture." This provision embodies the recommendation of Lord Cowper's Commission. There is nothing whatever in the Statutes to prevent the future Senate, if it so see fit, from recognising Architecture as a branch of the faculty of Science, or of Engineering. Nay, more, there is a particular Statute enabling the Senate, if it so see fit, to conduct examinations of a professional character jointly with institutions holding such examinations. Although academic interests require that power of this kind should be exercised with extreme caution, and only in cases where efficiency will be thereby promoted, it offers an opportunity of association with the University of which the Institute may do well, perhaps, not to lose sight. Lord Davey's Commission was fully occupied, and considered a deputation in support of the claims of Architecture to be unnecessary, because it was well aware of those claims, and did everything in its power to meet them, not only by taking the steps which I have indicated, but also by including among the recognised teachers of the University such qualified persons—unfortunately they were very few—as applied to be recognised for architectural subjects. As to a systematic course of study, it was no part of the Commission's business to lay down a curriculum in Architecture or in any other branch of knowledge. That is entirely a matter for the future Senate. But the Senate cannot encourage systematic courses where none exist, or provide them itself without funds.

So far as I am aware, there is no school of Architecture in London at the present moment which has reached the level of efficiency displayed in the schools of Medicine and Engineering, or at all comparable with any of the more advanced schools of Architecture abroad, of the standing, for example, of the department devoted to that subject in the great Technical University at Charlottenburg, Berlin. With the amount of rebuilding that is in progress and in prospect in the Metropolis, such a school might accomplish a great work. I am not unmindful of an Association, protected to some extent by the Institute, which, without the command of any large resources, is yet doing useful service in the way of instruction. But its best friends can scarcely claim that it has now attained to University rank. When it develops, or when an efficient school for the study of Architecture arises in London, it is hardly likely to be ignored by a University anxious to promote the interest of all branches of science and learning. But the promotion of those interests depends upon proper endowment, and there is no place of education in the Empire which is just now worthier of attention at the hands of generous donors than the University of London.

I am, Sir, your obedient servant,

T. Bailey Saunders.

Grand Hotel Victoria, Interlaken, Sept. 21.

The Higher Education of Architects.

From Arthur Cates [*F.*]—

Those who are interested in obtaining the establishment of a systematic course for the teaching of Architecture both as a science and an art will not derive much encouragement from the observations contributed by Professor Roger Smith to the last issue of the Journal, p. 478; the preliminary conditions he lays down being that before such a course can be established the needs of more complete education for architects must become strongly felt, or some distinction must be established which could only be reached by a severe and prolonged course of study, thus practically deferring to the Greek Kalends the attainment of the desired object.

Professor Smith appears to imply that the need for a more complete education does not exist, and necessarily, therefore, the present haphazard methods are, in his opinion, sufficient for all needs, and no systematic course of collegiate education for architects can be established until such need is more strongly felt.

The Professor thus adopts the view that "supply" depends on "demand," and ignores the more important view that "supply" creates "demand." In all educational matters the latter is the correct view; the "demand" is latent, but when the need is adequately supplied the "demand" rapidly grows, and is in fact developed by the existence of the "supply." Instances of such results abound throughout the educational world; two only need be here mentioned. The Massachusetts Institute, which commenced in 1865 with fifteen students, has now a professorial and teaching staff numbering over 160; and the Neuchâtel Commercial School, which began with sixteen professors and one student, has in a few years increased to a staff of over forty professors, with 600 scholars.

If "demand" can be admitted to mean "urgent necessity" the "demand" now exists, and very strongly so. The results of the Voluntary and of the Obligatory Examinations in the first instance and of the Qualifying Examination R.I.B.A. now in force have, as was clearly anticipated and intended, brought into prominence the imperfect, unsatisfactory, and inadequate nature of the education usually obtained by young architects, and have greatly influenced its improvement. A great impulse has been given to more advanced methods of study, and, so far as present means are available, to some extent satisfactorily; but even so it has been considered expedient, in order to meet the shortcomings of the present means and reduce the labours of the candidates, to modify the original scheme, and in addition to eliminate from the requirements for the "Final" such important subjects as perspective, sciography, and vaulting (stereotomy).

The imperfection of the present methods of education necessitated the fixing of a moderate standard of acquirements for passing the Final in the more technical subjects, which can be taught directly. The majority of candidates have but little difficulty in getting through in these subjects; the large proportion who fail are relegated in the vital subjects of design and mouldings and features, clearly pointing to great deficiency in the teaching of these most essential branches of architectural knowledge, proficiency in which can only be acquired by long continuous study.

The necessities created by the examination have led to the constitution of many classes and teaching departments, but their energies are naturally chiefly directed not to the higher or even the complete education of architects, but to the imparting in the shortest possible time so much knowledge as may assist the student in passing the examination, or in securing employment:—that is not education; while without systematic organisation there is inevitably a great waste of time and energy and the production of very imperfect results.

A curriculum for students in the department of Architecture in any college affiliated to a university might be so arranged as to afford such students the opportunity of taking advantage, so far as may be necessary, of all the courses which may have relation to their studies.

An entrance or matriculation examination would be desirable to secure a reasonable amount of preliminary education, and the course of study should comprise attendance at those classes on the subjects of which a more or less extended knowledge is desirable, including French or German, or both, combined with a progressive teaching of Architecture and its dependent arts and sciences, in which from the commencement design and drawing, ornament and decorative art, would receive continuous attention.

Thus a youth leaving school might at once proceed with a well-arranged course of professional study, at the conclusion of which he would readily in an architect's office acquire that knowledge of practical and business details necessary to complete his professional education, and valuable time now so often wasted in the period of pupilage would have been profitably devoted to more perfect equipment to meet the struggle of life.

Some distinction marking the successful passage through such a course would be essential, but it may be hoped that the day is far distant when the Institute, or a fortuitous aggregation of a dozen or so architects who may be pleased to designate themselves a "congress," may see fit to memorialise the Senate (not Council) of the University of London to establish a degree of architecture—"*B.Sc. taken in Architecture*"—as a preliminary step to the establishment of a complete curriculum.

It is very questionable how far it may be desirable that any degree in architecture should be granted, and until a systematic course of education has been provided the contemplation even of the possibility of a degree is clearly out of the question. The degree suggested by Professor Roger Smith—that of *B.Sc. taken in Architecture*—would certainly not be satisfactory; the Cowper Commission classed Architecture with the applied sciences and ignored the art altogether; the Statutory Commission placed it under the category of the Board of Fine Art, apparently leaving scientific and practical work to come in under the Faculty of Engineering.

The degree suggested of B.Sc. would possibly bear evidence to the acquirements in science and practical subjects, adequate knowledge of which is certainly of the highest importance to the architect, but which, however thoroughly mastered, will not make an architect; such a degree would therefore be misleading and injurious to the advancement of the art. If any degree should be found to be possible, it must, besides science and practical subjects, comprise the vital subjects of design, detail, ornament, decorative art, the relations to the sister arts, &c., which, involving matters of taste, would require most careful treatment if adopted as subjects for an academical degree.

It may here be noted that the establishment of a degree in Architecture is under consideration by the Victoria University (Manchester). When the regulations in connection therewith are issued they will merit careful consideration, and will probably greatly help to advance the good cause; in any case the results of this new departure will be watched with great interest.

The important communication made to the Fifth International Congress of Architects, Paris, 1900, by M. J. J. Pillet, entitled "L'Enseignement de l'Architecture: Projet d'Organisation de l'Enseignement de l'Architecture dans un Grand Pays," will have great and special interest in this juncture, and, considering the position of its author as a professor at the Ecole Nationale des Beaux-Arts, its reproduction in the JOURNAL with a translation would afford an opportunity of comparing French theory with American practice, and, while materially assisting in bringing home to the profession here the position of architectural education in this country, will afford suggestions for the effective amelioration of its present condition.

Mr. Moore's "Gothic Architecture."

From CHARLES H. MOORE:—

I think that Mr. Bond's remarks [p. 450] on my reply to his strictures on my *Gothic Architecture* may, for the most part, be safely left to the intelligence of the impartial reader. But on one or two points I may be permitted briefly to speak further. As to the piers of Paris, Mr. Bond evades the point at issue by saying they "are now stated to be Gothic," &c. I did not, in my communication, say they are Gothic; I said they are *compound*, Mr. Bond having declared them to be "simple cylinders."

As to churches without aisles, Mr. Bond is again evasive. I would remind him that it was not a question of the existence merely of such churches, but of their existence on a scale equal to that of Gothic churches with aisles. Now the Cathedral of Angers, the first one cited, has a span within of about 13 metres; but the nave of Soissons, one of the smaller Gothic cathedrals, has a span within of 22 metres. It is true that the Cathedral of Toulouse is much wider than that of Angers, having the very exceptional span (for buildings of this kind) of about 20 metres; but the span of Paris is 35 metres, and that of Bourges is 40 metres.

As to the Gothic exterior, Mr. Bond will, perhaps, remember that he had complained that it was "bad Art to build a grand exterior and leave it for all time blocked up from view by a scaffolding of buttresses," &c. He now speaks of the "æsthetic value" of the exterior, and tells us how unfavourably he was impressed, on a recent visit, by that of Amiens. But it is not primarily a question of æsthetic value, or of Mr. Bond's impression, but of structural fact. Will Mr. Bond explain in what the exterior consists which is blocked up in the manner he describes?

I am familiar with the admirable papers of Mr. Bilson, to which reference is made. They do not, however, affect what I have said in the passage commented on by Mr. Bond. I have not said that there is no logic in Norman building; I have, on the contrary, shown that there is a great deal.

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CONGRESS SUPPLEMENT

COMPRISING THE PAPERS READ AT THE GENERAL CONGRESS OF ARCHITECTS
HELD IN LONDON, JUNE 1900; WITH DISCUSSIONS THEREON

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The proceedings of the Congress are Reported in the Journal for 30th June, pp. 407-421.

USUI·CIVIUM· DECORI·URBIUM

THE NECESSITY FOR OFFICIAL CONTROL OVER ARCHITECTURE IN OUR TOWNS AND CITIES.

By William Emerson, *President R.I.B.A.*

THE period of the most extraordinary and spontaneous revival in the art of architecture during the fourteenth and fifteenth centuries, known as the Renaissance, had been preceded by a wave of great interest in the advance of learning, culture, and knowledge. The century now at its close has been one also of unprecedented advance in all branches of learning, culture, and science. It has also been marked by many indications of a revived interest in architecture.

This interest seems, however, to have been confined mainly to individuals, or small associated bodies of cultivated architects, archæologists, and artists. In fact, since the Renaissance in England, which followed hard on the heels of that in Italy, architecture seems to have been steadily on the decline. The strong Classical movement in the earlier years of the century, and the enthusiastic outburst of Gothic revival later on, were however indications of the existence of some amongst us who recognised the importance of a fitting national architecture being evolved if our Metropolis and large provincial towns were ever to be worthy of the great British Empire. But the public interest in architecture is evidenced by the quality of the designs they appear to be contented with, and is exemplified by the numerous extraordinary conceptions seen in our streets and public places. Nevertheless there is an undoubted undercurrent of interest in, as well as growth in knowledge and appreciation of artistic architecture, which is fostered by many of the professional journals.

These reflections cause one to consider how it is that with all our increase of knowledge, all our growing interest in art, and all our opportunities of study and travel in other countries, our streets should be so replete with staring incongruities, uglinesses, ignorances, and want of refinement.

One cannot help feeling that the following have been some of the reasons of this anomaly:—

(*a*) Ignorance and want of proper education of the public and the architects in artistic matters.

(*b*) Lack of public interest in the subject, causing unwillingness to spend money on architecture, and the mercantile desire to build as quickly as possible, in order to avoid pecuniary loss from rent or otherwise.

(*c*) Lack of control by competent educated authorities, either governmental or municipal, or estate agency, whereby at least the erection of palpable architectural enormities might be prevented.

In regard to (*a*) and (*b*), degeneration in architecture may have set in with the dying-out of the art and craft associations which in former years, both under the Church and guilds, exercised authority in architecture and art knowledge, and so carried out many of the important buildings in almost every country; these guilds handed down from father to son in successive generations what was known of the arts—as, in fact, takes place in the East at the present time.

This system died, and with it their traditional art knowledge declined. Coming to our own times, undoubted improvement in regard to education in art is taking place every day. The Royal Institute of British Architects' Examinations now promote study on the part of the rising members of the profession, while the education of the general public is so many-sided nowadays that even architecture claims some attention. But it is the third point, as to the desirability of control in respect to the design of our new buildings, to which I wish mainly to draw attention.

Could ancient Rome ever have developed the magnificence in architecture that its works reveal had there not been some sort of control over the artistic as well as the constructive side of their buildings? If Augustus boasted that he found Rome of brick and left it of marble; and if the magnificence of Vespasian, the genius of Trajan, and the cultivated taste of Hadrian conceived and accomplished the noble works of their reigns, they evidently exercised a certain control over the embellishment of the imperial city. History tells us that it was the duty of the Pro-consuls in ancient Rome and the provinces of the Empire to supply the deficiencies of the citizens in their building operations, to direct their taste, and sometimes to moderate their emulation with each other. The emulations of our citizens scarcely require much moderating in this respect now. The Romans were, however, apparently uncontrolled in regard to their private houses, and the modest simplicity of these proved their freedom in this respect.

In our day it is also not so much in private dwellings that artistic control seems necessary as in semi-public buildings and business houses in our streets. During the Renaissance public taste and opinion had a controlling influence over architecture and art, for even the production of a new statue, if fine, was made the occasion of public ovation and rejoicing.

Public taste and opinion now have little influence; but the necessity of some competent control over the art of architecture is felt not only by many in England, but also in all parts of the civilised world. And as a proof of this feeling in France a book by a French architect, M. Gustav Kahn, is now, I understand, being published on this very subject; and the matter is to be discussed at the International Congress of Architects to be held in Paris during the Exhibition. Most countries have control over the designs and construction of their public governmental and municipal buildings; but over private buildings facing on public streets and places, there appears to be hardly anywhere any other control than that affecting constructive or hygienic matters, or widths of streets and general heights.

The question is how some efficient control—affecting not only the constructive, but the artistic design of public as well as private buildings—could be obtained, and whether or not such a control would be advantageous.

In France, to quote the words of our late Secretary, Mr. William H. White, the Council of Building in Paris, the principle of which was first initiated by Colbert in 1663, has existed in some form or other since his day. In 1798 this Council, under another name and in altered form, took for a time the name of "Assemblée Centrale des Architectes," and consisted of seven architects. Later on a Councillor of State was appointed president, but the vice-president was always an architect. In 1838 this Council was extended to twenty-four in number, of whom fifteen were architects, and their duties were increased. The members of the Council were not permitted to design or execute new works under the Administration. They had the final judgment as to designs submitted in competition for public buildings. They also advised as to the selection of architects for new public works; and since then this Council has had the supreme control of all public works, there being numerous divisions—which I need not now go into—for the efficient control of the various departments of works. All were placed under the charge of a Minister at the head of the Maison de l'Empereur et des Beaux-Arts. The responsible chief of each division of public works was advised by committees of experts. I believe, unless any alteration has been made lately, the functions of Supreme Director of Works are divided between (*a*) the Minister of Public Instruction and Fine Arts, (*b*) the Minister of Justice and Public Works, (*c*) the Prefect of the Seine, (*d*) the Prefect of Police. The Minister of Public Instruction and Fine Arts, the Minister of Justice and Public Works, and the Prefect of the Seine are all advised in matters of architecture and building by councils or committees, of whom a large proportion are architects. The Prefect of Police, whose duties are mainly in connection with the safety of the public in respect to buildings in public streets, &c., is assisted by a number of architects, the Inspectors-General being men of high distinction in the profession.

This systematic organisation has been responsible for some of the best and most beautiful buildings in Paris, and appears, in respect of public edifices, to give satisfactory results, and has undoubtedly influenced the national architecture of France. This control is exercised always over a design for a building which has to be carried out with the aid of funds contributed wholly or in part by a public body; but in France, when it is a question of private buildings, the control of municipal authorities is only extended over such matters as widths of streets, heights of buildings, and hygiene, but in no way over artistic matters. In fact, M. Lucas informs me of a case some years ago proving how little voice the authorities have in such matters. The story is as follows:—

A house-owner at Chantilly, wishing to force the owner of a house situated opposite his own upon the public road to quit the district, painted the façade of his own house black, with death's-heads and cross-bones picked out in white. This led to a series of actions and appeals in courts of law, with the result in the end that the owner of this grisly façade had to wipe it all out and repaint it in the usual manner. But the judgment had nothing whatever to do with the question of art in regard to street architecture or in reference to public taste, but solely on the ground of damage done to his neighbour by hindering the letting of his premises.

In Berlin and Germany generally, also, though I believe there is Government control over public buildings, and though there are building regulations and legal restrictions in the matter of private construction of buildings, these have nothing to do with æsthetic considerations. Every proprietor has a right to occupy his property with buildings or alter his buildings, but no building is permitted to the damage or the insecurity of the public or the disfigurement of towns and open spaces. In regard to the word "disfigurement," in legal proceedings which have been taken to prevent the erection of unsuitable edifices the judges have invariably dismissed the cases, on the ground that matters of taste are purely individual. But I am informed by one of the leading Berlin architects that this defect is felt very much and will shortly be remedied, and counsel is being taken as to the scope of such legal restrictions. This matter, which is under consideration, can scarcely be brought to a conclusion this year.

In Austria I find there is no control over new buildings in respect of their æsthetic properties—only over construction.

In Denmark there is also no control over taste or design—only in construction and other kindred matters; and the lawyers there strongly uphold the unlimited right of an owner to build whatever he pleases, provided it be in conformity with the law.

But the disregard of the public's just claim for beauty of design has been severely censured in the Common Council of Copenhagen; and the opinion expressed there has influenced the magistracy to such an extent that now in most deeds of conveyance whereby the community sells land for building purposes the stipulation is made that the drawings for the exterior of their buildings are to be submitted to the magistracy, who then seek the opinion and advice of the city architect, and generally decide according to his advice.

To this scheme there are many drawbacks. When the community is the greatest landowner, as in Copenhagen, it may affect many, if not most, of the buildings; but even then, when incompetent architects are chosen by the building owners, and the design is submitted after the sale is completed, very little can be gained by the alteration and correction of unsatisfactory drawings, or by the absolute refusal of them; and their approval, if the alterations, as is usually the case, involve more outlay of capital, naturally raises objections on the part of the building owners. Were it possible for the designs to be submitted previous to conclusion of the bargain for the land, a much more effective control over the design could be exercised. Lately this has caused a movement for a revised building Act, which shall have clauses giving power to the building Commission to refuse consent to the carrying-out of a design that would disfigure the street or place in which it is to be erected. But whether such a clause will be carried is uncertain, for there again the question must arise as to what disfigurement entails or means.

In Italy control of buildings is a municipal affair. Each city elects a Council, called the "Commissione Edilizia," whose mission is to examine every building project, whether for a new construction or for an alteration to an existing structure, and to uphold the interests of the public from the standpoint of beauty. They have to examine the plans from an æsthetic point of view, and if in their judgment the execution of the project would disfigure the city they are bound to refuse their sanction to it.

This Committee, the "Commissione Edilizia," has also the power to grant exemption from the building regulations in case what is termed the "ornato pubblico" should require it; for instance, in the matter of heights.

The Pope's Government has always desired to go one step better to secure improvements in the aspect of the city. Leo XII. granted that whoever should build, or rebuild, or restore a house from designs approved by the St. Luke's Academy of Fine Arts should be exempt for thirty-three years from an increase in property tax—a most just and wise measure for the encouragement of citizens to erect handsome buildings.

In Russia I learn that every governing institution has its own building officer and architects, who are responsible for its buildings. But the latest innovation is that designs for all important buildings requiring artistic skill shall be examined by the Council of the Academy of Art; but until now many exceptions have been made to this rule, and in consequence, I am told, barbarism often reigns in many of the buildings.

In America, in New York and Boston, art commissions exist, consisting of persons appointed by the mayors, and of those who hold certain positions at the head of certain public institutions, and the law provides that no work of art shall be accepted by the city government or erected in the streets or public places without the approval of the respective commissions. This applies, however, more to fountains, statues, monuments, and such like, than to buildings, excepting that within certain limits a building paid for by public funds may be altered, modified, or controlled by the commissions.

It seems, therefore, that Italy alone has any real control in the public interest over the artistic design of buildings, and this is exercised by committees in each city.

There can be no doubt that in England, as well as in all other civilised countries, great and important steps have been taken of late years in the way of control over building operations in matters affecting the public welfare, such as constructive details, hygiene, and sanitary questions, and possibly it is to be expected that these should take precedence over matters of taste and beauty. But the more educated public seems now to be justly discontented with the effect of many of our buildings and the way in which town improvements and public works are conceived and carried out; and there is no doubt a growing desire that some sort of control as to the æsthetic side of architecture should be exercised by competent authorities, at least in respect of our public streets and places. But how to exercise such a control is a very difficult question. So long ago as the year 1881, when the late Mr. George Edmund Street was President of the Institute, he drew attention to a number of flagrant cases of mismanagement in regard to our national monuments, and to the selection of sites and arrangement and laying-out of certain public buildings, bridges, streets, and their approaches, and then argued that all pointed to the necessity for the creation of a Government Ministry of Fine Arts, which should have a supervising eye and control over all our national monuments and collections, and also over new edifices, city improvements, and rearrangements. The late Lord Leighton observed that much might be said in favour of some scheme for checking the production of ugliness in this country, but he expressed the fear that many and grave difficulties would beset the carrying-out of any such scheme, and I have reason to believe that one of the chief difficulties he saw was that in the event of such a Ministry being established, and having by chance a dictatorial head, it might eventuate in one man's architecture, resulting in a monotonous effect in our towns.

This subject constantly recurring, and attracting the notice not only of architects, sculptors, and artists, but also of some of the educated public, seems to show that it is a measure which must eventually find its way into practical politics; and surely, as it is of Imperial interest, and would undoubtedly be for the good of the greatest number, it ought to do so.

Let us consider for a moment some of the points for and against such high authoritative control. Some of the points in its favour would be:

I. That such a controlling body, composed of fully qualified men of artistic perception, would prevent the erection of new public buildings, such as our Law Courts and the Admiralty, on sites insufficient, not only as regards the requisite accommodation, but as regards æsthetic effect, in the interest of what the Italians call the "ornato pubblico."

II. That the laying-out of open spaces, public places, and their approaches would be considered by properly qualified and competent experts and judges, rather than, as is often the case, by incompetent persons, often under the orders of uneducated tradesmen who for the moment may fill the seats of our councils, vestries, or local governing bodies.

III. That such schemes as the two bridges at Blackfriars, erected on totally different principles and lines, within a few yards of each other, would be rendered impossible, and, when necessary, proper designs for new bridges, engineering and architecture going hand in hand, would be assured.

IV. That when schemes for new streets, &c., such as the Strand Improvements, lately before the public, or Northumberland Avenue, or Charing Cross Road, or Shaftesbury Avenue, were under consideration, some general plan and design would be arranged, and the talent of our best men obtained, under fair remunerative terms, and they would be responsible to such a controlling power for the proper carrying-out of the architecture of the scheme, and tenants would be unable to erect whatever uglinesses and incongruities their uneducated tastes might prompt.

V. That the taste of the public would gradually be elevated and improved, the man who wished to disfigure the town for selfish ends would be reprobated, and eventually our town architecture would become the glory of our nation, and architects who were not artists also would gradually cease to obtain work.

VI. That the more education increases, the more a definite control of some sort seems necessary, because posterity has some interest and right in the taste of its forefathers, and we should build not only for the present, but for the future.

VII. That such a control need not mean, under a properly constituted Ministry or Commission, monotonous uniformity of design—one man's architecture; but the juxtaposition of inharmonious designs, materials, and colours would be prevented, and a general harmony with plenty of variety would be ensured.

VIII. That at present architects' powers are often limited in dealing with strong, self-willed, and selfish clients who have no feeling for the fitness of things and are deficient in taste. This should not be the case. For example, should an architect refuse to erect for such a client a huge stone building apparently supported entirely by plate-glass windows, he would be punished by losing the work, and some less conscientious person would unhesitatingly do it. Such a thing would, under control, be out of the building owner's power; the architect would be able to say, "Such a design would not pass the Ministry of Fine Art, therefore it is useless my attempting it."

Some of the points that might be urged against such a control are:

I. The politician would probably say that this would be Collectivism as against Individualism, and would interfere with and restrict the rights of owners in regard to their properties; and, on the ground that there is no accounting for taste (*de gustibus non est disputandum*), he might have some show of reason on his side. But if this were for the national good in matters of taste I cannot see that it would be worse than interfering with freedom in construction and hygienic matters for the good of the public safety and health.

II. It would be urged that it would increase the difficulties of letting land for building purposes; but were it the general rule such a complaint would soon cease, and the inevitable would become the good.

III. At present many boroughs and corporations give their architectural work to their engineer or surveyor, and therefore would object to this control. Often these men are quite incompetent for the proper carrying-out of such buildings; but as the arrangement saves an architect's fee the public love to have it, and the ratepayers vote for it, in their ignorance not understanding that eventually they will be the sufferers.

IV. Some architects might raise objections to such a control as involving the trouble of getting their designs passed, not only by one set of authorities on constructive and other matters, but by another body on the ground of "ornato pubblico" (I use the words for want of an English phrase equally expressive). This might be a serious difficulty to many who profess to be architects without possessing the needful artistic taste. That class would die out under such a *régime*.

V. The ratepayers would object to it as adding to taxation; for such a controlling body of experts should be highly remunerated.

VI. Then, again, it may be urged that it has never been the custom to interfere with personal tastes in regard to building on private property, even though it be in our public streets and thoroughfares.

But though custom has been against such a control, it may have been merely the antiquity of error—as Cyprian said in speaking of custom, that the fact of its being the custom is no warrant for its existence. The increasing aggregation of population in large centres needs increasing regulation in all matters of public and social interest; and if customs have grown up of which time has proved the unwisdom, then, however ancient, let them be eradicated.

There are probably many other points both in favour of and against such a control which could be pointed out. But on the whole it seems to me that if the larger considerations of public education, culture, Imperial demands, and our national character and taste as they will appear in the eyes of posterity, are weighed in the balance of common-sense with the smaller considerations of individual right in matters of taste or property or greed, cost to ratepayers, custom, or inconvenience to the inferior architect, the latter will easily kick the beam.

But were such a control established, the question arises, How should such a body be constituted? Clearly there should be a responsible head of the department, were he a Government Minister or not, and he should be chosen not only for his administrative or political capacities, but for his known possession of cultivated taste, large Imperial ideas, and love of art, combined with practical common-sense; and he should not have the power to overrule the Committee's decision, of which he would be president.

It goes without saying that the Committee should be formed of the best men amongst our Royal Academicians, Royal Institute of Architects, and other artistic societies.

The view of a majority of such a Committee should be final in all schemes, public or private, which affected the "ornato pubblico."

For our Metropolis, in which the whole Empire is interested, such a controlling body should, I imagine, be a Government Ministry of Fine Arts; while each provincial town or county council should have the right to elect its own committee. I suppose each such body should be paid from rates raised in the district under its control. But these are details apart from the large general question of necessity for control.

These suggestions, however crudely put my ideas may be, please to understand, I have made solely with the view of eliciting discussion, and in the sincere hope that our governing authorities at no distant date may see their way to inaugurate the new century with some project whereby the future architecture of our country may not be left to mere chance or the caprice of irresponsible individuals; but that under a wise control the architecture of the greatest Empire the world has ever seen may not in the future suffer by comparison with that of other civilised countries of the present time, or indeed with that of nations of bygone ages.

DISCUSSION.

Sir John Taylor, K.C.B. [*F.*], in proposing a vote of thanks to the President for his Address, said their thanks were due to him for the trouble he had taken in obtaining information as to existing rules and regulations in regard to control over designs for public buildings in other countries. He (the speaker) had for many years been intimately interested in one of the subjects (probably the most important) with which the President had dealt, viz. control over the erection of national buildings. The tendency of the President's remarks was towards a mild criticism of the buildings erected by the Government in recent times. While he fully sympathised with the suggestions, he did not admit that, at all events during the past few years, the Government had been lukewarm in regard to the designs of public buildings. It was no doubt true that in some cases the result had not been quite satisfactory; but the reasons for such partial failures were more of a political nature than from the absence of satisfactory designs, and so long as decisions in matters of this kind rested with Parliament and Parliamentary Committees much uncertainty would exist in regard to them. He had some doubt as to whether the recommendations of such a body as that suggested in the Paper would meet with a better fate than those made by the Office of Works, which had been more than once set aside. In the most recent case the Government had had the assistance of the Royal Institute of British Architects in the selection of the architects invited to erect new public offices, and in taking that course the result had been very much what the President had been asking for. It had to be borne in mind that buildings were required for specific business purposes, and the requirements of the case frequently operated against a design being as monumental in character as desired; while, on the other hand, instances could be given where the architectural treatment of the exterior had been given precedence to such an extent as to make the buildings unsuitable for their purposes. With regard to the President's remarks that a controlling body would prevent the erection of public buildings, such as our Law Courts and the Admiralty, on insufficient sites, the President appeared to be under some misapprehension, as in the case of the Admiralty at all events the site was amply sufficient for the purpose if properly used.

Mr. William Woodward [*A.*], who seconded the vote of thanks, said he could not agree with the last speaker, who appeared to think that the committee who considered the designs for the new buildings in Whitehall corresponded to the committee proposed by the President. The committee referred to by Sir John Taylor only applied to the Office of Works, whereas the President's suggestion applied to the whole country. The difficulty in regard to the suggestions of the President was as to the question of taste. He supposed that the committee would not lay down any hard and fast rule as to designs being Classic, Renaissance, Gothic, or Queen Anne; he took it that there was no desire to exercise any control in matters like that. All that would be required would be that buildings should be of as high a form of art as possible in the circumstances. The absence of control was manifest in such a structure as the railway bridge at Ludgate Hill, which interfered so seriously with the view of St. Paul's. Had there been a committee such as that proposed, that bridge would never have been built, nor would the addition to King's College, which interfered so seriously with a building under the control of the Office of Works, viz. Somerset House. Nor would Queen Anne's Mansions have been permitted. As to the railway companies, the Great Central Railway could have had a site in Chapel Street, Edgware Road, which would have been ample for its requirements; instead of that they selected and spoilt one of the finest parts of London, and a committee like that proposed would have prevented the monstrosities which had been perpetrated at St. John's Wood. Last year sub-committees of the House of Lords were considering additions to Charing Cross Railway Station and Victoria Station, and it was very much to be hoped that something would be done to prevent a repetition of what he had referred to at St. John's Wood. He might add a word as to hoardings. There was nothing in the Building Act, or any Act relating to London, to prevent a man erecting a hoarding so long as it was on his own site, and of making that hoarding permanent, and so disfiguring the street; and a committee like that proposed might be able to prevent such a thing.

Sir John Taylor said that King's College buildings, where the hideous structure referred to by Mr. Woodward had been erected, were not in charge of the Office of Works, and the Office of Works did all it could to prevent the addition being made.

Mr. William Young [*F.*] said the matter deserved most serious consideration. It was no doubt true that buildings which, to say the least, were eccentric, and which spoilt the whole effect of a street, were frequently to be met with, and seemed to indicate the need for some sort of control. Charing Cross Road, for instance, was a lost opportunity, while the Embankment from Westminster Bridge to Waterloo Bridge (one of the finest lines of street in the world) had been very much spoilt; there was no attempt at harmony anywhere, and what might have been a magnificent improvement to the city was spoilt for the want of some sort of control. The greatest offenders were the railway companies and public bodies, and if control over the artistic character of buildings were obtained he hoped it would be mainly limited to railway companies and public bodies; for in London there was a good deal of control over the individual. On the Westminster and Cadogan estates—in fact, on all the great London estates—designs had to be submitted and approved. In competitions, again, there was control—indeed, he thought, generally speaking, there was quite enough control; an architect wanted a certain amount of freedom in his designs, and the control that he needed was *self*-control. There was no doubt that architects should consider more than they did the design and character of the building adjoining the site they were going to build on. But a design came under the control of the Building Act and of the Vestries, and if, in addition, it had to come under the control of a Minister of Fine Arts, and had to be altered about to suit that gentleman's requirements, it would hardly be recognised as the product of the architect, and control, carried so far, was undesirable. Instead of a controlling body, why should there not be an advising body? Altogether he felt it was "better to bear the ills we have than fly to others that we know not of."

Mr. E. W. Hudson [*A.*] said the key of the whole matter was the question of taste, as to which there was no standard. Who was to decide, when even in the same epoch educated people were not able to agree in matters of taste? The President seemed to imply that homogeneity was what was wanted; that idea was carried out in Regent Street, but could we take that as an example to be imitated? Was it not a fact that the charm of mediæval towns, such as Nuremberg, Bruges, &c., and our own cathedral towns, was due to the variety of elevations met with? It was quite possible to go to the other extreme. Railway companies were great sinners, and their power was very great. It had been suggested that the bridge at Ludgate Hill would never have been erected had there been public control in design; but he did not think so; though if commercial interests were not so powerful it might be possible to let questions of taste have more consideration. Some kind of control of public buildings had been exercised in the South of London with more or less success. When the London, Chatham, and Dover Railway extension was proposed, certain opposition was brought to bear on the company by the Dulwich College trustees, the owners of some of the land. The company had to submit for approval the designs for viaducts and stations, and, so far as it was possible to make engineering designs artistic, it was done in this case; but where there were many small owners, as in London, it was impossible to exercise such control. What was the existing state of things in London? Every designer followed his own bent with little or no control. In case of public buildings the R.I.B.A. or individuals might offer alternatives to ugliness; but if they got a hearing public opinion had no power to prevent that ugliness or unsuitability being perpetrated. There was no means of obtaining a vote, no authority to enforce it. The Law Courts competition was won, he believed, on the merits of planning, and yet what dissatisfaction arose when it was carried out! Could it be said that the approval of designs by the late Metropolitan Board of Works and the London County Council in new streets had secured architectural effects of which we were proud? How was the desirable control to be effected? Certainly not by appointing a Minister of Civil Architecture and then ignoring his decisions, nor a Surveyor-General to give advice merely to be rejected, as was the late Mr. Fergusson's experience twenty years ago. It seemed as if we wanted a Colbert in England to settle the matter. A single official was not a satisfactory solution when we remembered that it was Lord Palmerston's interference that made Sir Gilbert Scott carry out a Classic instead of a Gothic building at Whitehall. Surely it ought not to be impossible to have a tribunal of three to represent Classic and Gothic styles and decorative detail respectively, to adjudicate upon designs for public buildings and civil architecture in our towns and cities, with appeal to a Minister of Fine Arts in the capital.

Mr. Zeph. King [*F.*] said that in Nuremberg, where he was much struck with the picturesqueness of the buildings, he was informed that when an old building was pulled down it was necessary, in erecting a new structure on the site, that it should be of the same character as the building removed or of other buildings in the street. He had been much struck, too, by the manner in which old buildings were pulled down; instead of being knocked down, as in this country, without any regard as to the dust that was occasioned, each stone of the building was dropped to the ground by a pulley, and a hose was turned on to the interior of the building to prevent dust flying about everywhere.

Mr. Hippolyte J. Blanc, R.S.A. (Edinburgh), said he feared, from observations made by members present, that architects themselves would be the most difficult body of men in the country to control. He looked in another direction for a cure of the evils drawn attention to by the President. The President had said that those evils arose partly from a want of knowledge, a want of interest, and a want of control. It was true that what we knew least about we had least interest in; and in his opinion the best cure for the evils referred to was to educate the public. Given the knowledge, and the consequent interest, the control would often not be necessary. All who had travelled on the Continent must have recognised the effect of control—in such a city as Paris, for instance. No one wished to see London, or any other city, with such monotonous frontages as those of the Boulevard des Italiens and the Rue de Rivoli. The beauty of architecture was often seen in its variety. What was wanted was the education of the architect and a true appreciation of the architect's works by the public. He recognised that some measure of control was required; but he would make that control not too hard and fast—control, in fact, by suggestion, by a competent body of architects and laymen combined. He had always felt that laymen read architecture in a totally different light from that in which architects did; but architects were indebted for suggestions from intelligent laymen. The Edinburgh Architectural Association had from the commencement been composed of architects and laymen, and to those laymen the architect members had been deeply indebted. By attending the meetings of the Association, and by travelling about the country with them, the lay members had become interested in what they had seen, and in that way had obtained an architectural education, and had become intelligent members in discussions upon architecture. He did not like the use of the word "control"; the committee should be a watch committee to make suggestions, and it should be composed of architects and laymen. He did not include painters, for, with all respect, he did not think a painter could judge from a geometric elevation what the ultimate effect would be in elevation, and he had always hesitated to submit his designs for public work to the verdict of a painter. With regard to control, that was very necessary in laying out new streets and in designing bridges. Those latter works were frequently the work of engineers, whose training rarely fitted them to give the necessary architectural finish to their work. On the Continent they knew better how to do these things. The charm and the variety of the bridges over the Seine, and the artistic skill expressed in them, were very marked. Unless the work of the engineer was clothed with the artistic skill of the architect it was generally crude and uninteresting.

Mr. Ernest Day [*F.*] (Worcester) said he thought that control in design would be very beneficial to the community at large. He was very pleased that the London County Council had been going somewhat on the lines suggested by the President in the new street from Holborn to the Strand. He felt with the last speaker that the education of the public in architecture was necessary; and that might be, to some extent, achieved by art and technical schools, architectural and archæological societies, and in branches of the Institute. He quite felt that in all public schemes and improvements it would be a distinct advantage to secure the support and co-operation of various corporations and local bodies with the Institute. The scheme which the President had foreshadowed would be looked upon, he feared, by the ordinary layman and many public bodies as an undoubted interference, and would require considerable care and judgment in any negotiations in order to attain success.

Mr. F. R. Kempson [*F.*] (Hereford) said he thought that a council of advice would be better than one to dictate.

Mr. Joseph Smith [*F.*] (Sheffield) said that from the remarks made it was clear that no one was satisfied with the present state of things. While there was a good deal of control in matters of construction by local authorities (which in many cases was felt to be irksome), yet in this matter of æsthetic treatment of design architects were left very much to themselves, with results that were not satisfactory. He felt that there was an urgent need for a different order of things, and that the scheme suggested by the President might usefully be tried. To put the æsthetic control of design in the hands of local authorities as at present constituted would be a great mistake. Up in the North it had been made a condition that elevations should be submitted for approval, and some local authorities had approved monstrous designs.

Mr. Arthur Cates [*F.*] said he had heard the paper with very great interest, but he felt, however desirable the aim, it was somewhat Utopian in the present circumstances. Mr. Young had shown that in London and elsewhere a certain amount of control of design already existed; and however imperfectly it may be exercised, and then only on particular estates, the very good results which had followed showed how desirable it was that such control should be general, and should in the public interests be more stringent. One of the points which had apparently existed in the mind of the President, and had caused him to wish for more efficient control, appeared to be the manner in which recent public buildings in London had been erected. There appeared to be exceeding good ground for that feeling. The President had proposed a Ministry of Fine Art which should have absolute power in controlling designs for public buildings. Had such a Ministry existed at the time of the great Public Offices competition in 1856 the miserable results which followed might have been avoided, and together with the absurdity of awarding premiums for elaborate designs for remodelling the district between Charing Cross and Westminster Bridge as an official quarter where the business of the State might be concentrated in buildings of appropriate character all arranged in stately order; and then having selected the most appropriate scheme, at once proceeding to render its consummation impossible by erecting in a piecemeal manner blocks of offices, unfortunate in design, insufficient in accommodation, and in general idea and in position absolutely antagonistic to the general scheme approved for the rearrangement of the district. The establishment of any such Ministry of Control would, however, then have met, and would now meet, with considerable opposition from two sources: one would be that which was generally known as Treasury control as regards public buildings, and the other would be what the Legislature was exceedingly fond of, viz. Parliamentary control. It was not likely that either "control" would be surrendered to any independent body; but such control should at the least be under intelligent guidance, and as free from mere political influences as the peculiarities of our constitution would permit. The control of the Treasury related to expense, and led to the cutting down of buildings to the imagined requirements of cost, reducing the accommodation to the minimum, omitting decoration and "useless" architectural features, and generally, without regard to the future, thinking only of the reduction of present expenditure, and was influenced by the cry: "Will Parliament vote the money?" not, "Is the building a good one?" If the history of the public offices in Downing Street could be written from the commencement it would be a monumental history of folly, waste, and extravagance. The same could be said of the Law Courts, and the same, though in stronger terms, with regard to the Admiralty buildings, which were the most striking and unfortunately permanent monument of the evil results of the control of public buildings by Parliamentary Committees. The whole principle which governed the control and erection of public buildings in this country might be characterised as the principle of wasteful economy and profligate parsimony, which had resulted in the end in reckless extravagance and great waste of the nation's money. He agreed with the apology of Sir John Taylor for the Office of Works; for they were not responsible for the failures which had resulted, but being under Treasury and Parliamentary influence and control, and the post of First Commissioner of Works being a political office, the Department could only carry out as best they could what was decided by superior authority, without that continuity of idea and design essential for all great public works, which could only be attained by such a ministry as indicated, or in a lesser degree, if possible under government by party, by making the position of First Commissioner of Works a non-political office, and thus obtaining some continuity of authoritative influence free from political questions. The improved system of finance and general arrangements adopted with regard to the War Office in Whitehall and the new offices in Parliament Street was a hopeful sign of advance, and might be considered as an appreciation of the errors of the past and a desire to avoid the policy which had led to such disastrous results in other cases. As regards buildings on private lands and buildings on new sites in London, there was an important and, he thought, maleficent influence at work. The majority of buildings put up in London were not erected by those about to live in them, but by land speculators who got hold of the land with the intention of making as much money out of it as they could. They employed an architect to put up what they called "remunerative buildings," and they created an improved rent on it, and sold the improved rent, at a considerable gain to themselves, to corporations and public bodies who, in this country, by their articles of incorporation or charters, had been, unfortunately, restricted from building themselves, and so had to fall into the hands of these land speculators. It could not be supposed that the architects employed by those speculators were men who would take the same interest in the adornment of the Metropolis as those who might act for great corporations. And the limitations on the action of such corporations thus seriously affected the development and adornment of the Metropolis. Some feeble attempts at restraint of undesirable buildings had been made by legislation, but more power might well be placed in the hands of the central London authority. As to railway companies, it was much to be regretted that there was not some stringent condition which would compel them in suburban districts to carry out their works in a suitable manner. It was a great scandal that those who desired to produce a more satisfactory result should be met with the statement: "These plans conform to the requirements of the Board of Trade," such requirements relating only to strength of construction, gradients, headway, and the like, without any regard to appearance or amenity. If the companies conformed to the Board of Trade requirements, a Parliamentary Committee would rarely intervene, and it was only in cases where great pressure could be brought to bear on the companies that anything like reasonable designs could be extorted from them. Thus all the great thoroughfares out of London, and many in London itself, were defaced by structures hideous in themselves, but yet legalised, because conforming to regulations appropriate enough for rural districts but quite insufficient to meet urban requirements. It was hardly possible to realise how largely the interests of the State were involved in the style and character of public and private buildings and works; how much the mind and habits of the people might be influenced by conditions of life surrounded by dignified and appropriate buildings, and what immense advantages would accrue to the State, the public, and the individual by efficient control being exercised over the design and material of all erections in our towns and cities.

Mr. Emerson, in reply, said he was glad to have heard the various suggestions made, but he thought that both Sir John Taylor and Mr. Cates had misunderstood his meaning. He had not intended to reflect on the management of the Office of Works or on the new Government buildings, except to suggest the insufficiency of the sites, though perhaps, as to the Admiralty buildings, he rather had in his mind the æsthetic effect of the building. But there could be no doubt that the Law Courts were built on an insufficient site, and, added to that, the fault was aggravated by the insistence of the committee, who probably did not understand planning, and adopted a scheme with a central hall, which was practically useless, and therefore wasted space on an already insufficient site. A controlling body of competent men would have pointed out this defect in the plans in the first instance, though he did not suggest the control of public buildings so much. Of course there had been a certain amount of control in the designs for the new War Office and Government offices, and the Government had tried to get good designs, with carefully considered architecture, and he hoped that the result would be satisfactory. What he had specially referred to was the fact that any one could take a site in one of our public streets or places and build abominable architecture, which had no harmony, proportion, or beauty, and regardless of the adjoining buildings, which might be beautiful or good. He did not think his scheme would result in one-man architecture, and that was why he proposed a committee of men of common-sense and with artistic perception. He did not see why buildings should not be diversified in character and yet harmonious, but by his scheme we might avoid having a fairly nice design in stone spoilt by juxtaposition with some wretched erection in brick. As had been suggested, the committee should be an ordinary one, but unless it had some power to insist in certain cases he did not see the use of it, for architects were generally rather inclined to insist themselves. But many buildings were put up without architects—or at all events their names were never heard—and it was in such cases that the committee could most usefully exercise control. As to educating the public, that took a long time, though no doubt it was the real means of effecting a change in the architecture of our streets and towns. The Institute was doing its best by means of its examinations to promote the education of the architect, and he hoped and believed that the influence of many architects on the public was considerable. But until the public were educated were we to go on as we had been, letting our streets be an eyesore to the educated passer-by? Could not some steps be taken to prevent the production of ugliness in towns? His ideas had been put forward as suggestions, and he had in his mind a building only just erected in one of our principal West End streets which was a disgrace to the neighbourhood. That it was possible to put up such a building adjacent to some rather fine buildings was monstrous. As to Mr. Day's remark about the London County Council, the action of that body in regard to the designs for the new street from Holborn to the Strand was praiseworthy, inasmuch as they had tried to get a grand scheme; but what was the use of a grand scheme, and what was the use of obtaining designs from architects, if individuals might eventually be allowed to put up what they liked, regardless of the scheme? Practically, the London County Council would not guarantee to use the designs.

THE COLLABORATION OF THE ARCHITECT, THE PAINTER, AND THE SCULPTOR.

By Ed. W. Mountford [*F.*], Sir William Richmond, K.C.B., R.A. [*H.A.*], and E. Roscoe Mullins.

I. FROM THE POINT OF VIEW OF THE ARCHITECT. By Ed. W. Mountford.

FOR some considerable number of years it has been the custom at meetings of the Royal Institute of British Architects, when we are honoured by the presence of eminent representatives of the allied arts, willing to give us their valuable opinions upon matters of mutual interest, for an architect to produce a kind of brief preface or introductory note. This explanation is undoubtedly necessary to account for my having ventured to accept the invitation of the Congress Committee to address you on a subject upon which I have no kind of claim to be considered an authority.

The collaboration of the architect, the painter, and the sculptor is not only a matter of great importance, but one which is daily becoming more and more deserving of our consideration. There is reason to believe that the public—or, at least, the more educated part of it—is awakening to the fact that good art is both desirable and attainable in our buildings, and that even though this may increase their cost the money is well invested.

The art of architecture is not to be considered as dependent for its perfection upon the assistance of sculpture and painting, as some would have us believe. It is well known that many of our most admired ancient buildings are destitute of either; and the work of our greatest living architect is conspicuously free from any such assistance. Colour of the most beautiful kind may be obtained from the materials used in our work, and it is quite possible to invest buildings with some interest and richness of effect without calling upon the sister arts.

But we shall probably be perfectly agreed upon the great desirability of inviting the aid of our brethren of the brush and the chisel to beautify and embellish our buildings whenever it is possible to do so—which means, in the first place, when it may please our clients to provide the means. This is still one great difficulty, because we must have really good sculpture and fine painting, and, like most other good things, these are expensive. It is the unhappy fate of most architects to have their designs and intentions very much cramped or cut down by the want of the necessary money to realise them; and we have to be content to keep our buildings absolutely plain because bad pictures or bad carving defile a building, and must be shunned like other sins.

Supposing, however, that we have been entrusted with the erection of a building for which there are ample funds, so that we may with a good conscience invite an eminent sculptor and an eminent painter to help in making it as beautiful as we know how: then we begin to understand that there is some enjoyment in life after all, and proceed to our work with even more than the usual enthusiasm. At the earliest possible moment—that is to say, so soon as the first rough sketches are completed—we shall desire to consult our chosen fellow-workers; and from that time until our joint creation stands accomplished, the more frequent our intercourse the better for our building.

It must not be forgotten that the building is the thing, and the architecture is not to become a mere background for the painting or sculpture. They are means to be employed for giving additional interest and beauty to the building, explaining its purposes, its uses, and its history or the history of its builders, becoming part of the architecture itself, and not to be thought of otherwise.

The work of the sculptor and painter in relation to a building bears some resemblance to the illustrations of a great book, of which the architect is the author; and just as the illustrator of a book must make himself acquainted with its contents and the intentions of its author, so should they enter into the scheme of the architect and help to make his meaning clear. As some books require no illustrations, while in others they are of great importance, some buildings are complete without the painting and sculpture which in others strongly appeal to people who are quite unable to appreciate the architecture, and take no interest in it.

The resemblance is certainly by no means perfect. An architect in consultation with the sculptor and painter will provide in his buildings fitting opportunities for their work, spaces for frescoes or sculpture, or niches for statues, and will, if necessary, arrange or modify his detail to meet their views. Harmony of purpose and oneness of interest between all three artists are absolutely essential, or the work must suffer. It seems to me possible that the architect and sculptor may have more in common than the architect and the painter, working, as they both do, in the round; for though colour also enters largely into the work of an architect, it is not, usually, the colour of the painter. In any case there must be harmony of style and purpose, and not less essential are breadth and simplicity. These latter qualities have been so much spoken of, written about, and discussed lately, that one feels it necessary to apologise for again mentioning them. But important as they are in all design, they are even more so in connection with this subject, so they must come in again. How many buildings has one seen spoiled by overmuch carving, often poor stuff that has no meaning, except to cover the poverty of the architecture; but even of good work it is possible to have too much upon a building. It is not difficult to spoil an interior by too much colour decoration, be it painting or mosaic, and there are some modern examples which go far to justify the present taste for whitewash.

Without complete sympathy with the architect, a painter, no matter how great his skill or good his intentions, may do much to spoil a work of architecture, either by concealing features the architect may wish emphasised, painting out the construction as it were, or emphasising others which the architect would prefer to have left in modest retirement. The appearance of mouldings may be quite altered by their treatment in colour; or spaces, which were necessarily left plain for the desired architectural effect, may be painted with a design, possibly very good in itself, but quite undoing the intention of the architect.

It is not for me to suggest here anything as to the manner or methods of the painter. Every architect will have his own views as to the decoration in colour of his building, and would fully explain them to the painter entrusted with the work. Very possibly the architect's views may be quite mistaken, and the painter, if able to convince him of this, is rendering him a very good service. May I say that to me the pictorial treatment of a flat ceiling seems a great waste of time and skill? It is not usual in good society to lie upon the floor, and yet this is the one position in which a ceiling so painted can be properly seen. Even then the positions of any figures in the painting are impossible and absurd, unless the painter has represented them flying in mid air, with the soles of their feet and other portions of the body not usually seen made unduly conspicuous—which treatment, however skilful, is scarcely pleasing. Such ceilings are for the sculptor, if the architect desires some assistance to invest them with artistic merit.

It is hardly necessary to maintain that a painter, by bringing atmosphere into his mural work, treating his subject in a thoroughly realistic manner, simply destroys the architecture. Happily most English painters now understand decorative work too well to do such a thing, except in specially prepared panels. A considerable amount of conventionality must be employed.

With the sculptor the architect has to discuss, not only the subjects of his work, but the materials, the scale, the amount of relief, and the jointing of the stone. The small scale models which the sculptor will prepare may be most usefully extended to embrace as much of the surrounding architecture as possible, and the architecture will probably greatly benefit if this course be followed.

Sculpture I regard as being much more a necessity for important buildings than colour decoration, which is rather a luxury seldom to be attained. Moreover, being much less appreciated by the general public than painting, the cost is less. Probably of every hundred people who are "fond of pictures," less than twenty take any interest in sculpture, and certainly not more than five care anything about architecture. And the Royal Academy, as well as Her Majesty's Ministers, exactly reflects public opinion in this respect, which accounts for many things.

There is one small point with respect to the use of sculpture which is worth a little consideration. It is not unusual for a statue, large or small, to be placed upon the summit of a tower or the apex of a lofty gable, but the result is often not happy. A plain moulded terminal would generally look better and cost a great deal less, while the money so saved could be used with much better effect upon some less elevated part of the building. My objection does not apply so much to figures placed along the parapet of a building of moderate height, which can be seen only from the front, although even here a background of masonry is better than one of sky. But isolated figures at a considerable height from the ground nearly always look unsatisfactory from at least one point of view.

As regards the use of both sculpture and coloured decoration, I have a strong suspicion that many of the old buildings of Italy and elsewhere that we now so justly admire must have aroused quite different emotions in us had we seen them when fresh from the mason's hand.

In conclusion, may I be allowed to express my appreciation—which is shared, I am sure, by all architects—of the manner in which Sir William Richmond referred to the art of architecture in his recent speech at Bath? It would be well for all kinds of art if his opinions were more generally held, and one can but wish that his fellow Academicians should read and endeavour to understand all that he said.

II. FROM THE POINT OF VIEW OF THE PAINTER.

By Sir W. B. Richmond, K.C.B., R.A. [*H.A.*].

A PAPER written to be read in ten minutes should, I think, be both terse and suggestive; it certainly cannot pretend to be exhaustive. Its object should be the promotion of intelligent, even warm, discussion. If this Paper is abrupt in its transitions as well as in statement of my views the foregoing reasons must be my excuse for such defects. We all desire closer union than now exists between the three great arts, as well as a more intimate conjunction with them of the lesser arts and crafts.

It is the wish of all of us that the spirit of the true artist should preside over all our labours, great or small—a spirit which induces spontaneity of design, and which prompts sincere endeavour to carry it out with clearness, which shall be the expression of ourselves, and therefore with style. Style is what is wanted, and is so often absent, the impression of the mind and hand of the artist. Of "styles" most of us weary; their use, more often than not, implies absence of invention, and is but an attempt to revitalise corpses. Rather than follow them, ought we not to be bound by the requirements of our age?

The collaboration of the architect, sculptor, and painter ought not to be difficult. To be successful the architect should not interfere with the sculptor or painter, *qua* their designs; this he will not need to do if his style is his own, for if they are true artists, all of them, they will give and take according to the requirements of their arts as well as of each other's art. They will each respect the other's province, that of the architect as the designer, or builder (as Wren is named upon his tomb) of the structure; of the sculptor as the designer and carver of effigies, ornament and its attendant parts; of the painter, the designer, and executant of the pictures, their borders, &c., and their colour scheme.

But both sculptor and painter must give way to the architect upon matters of scale, of proportion of part to part, so that their work shall be harmonious in scale with his; of quantity, of projection, whether in the round or relief, of the fairness or depth as to tone, of the painter's scheme. So will they labour in harmony.

While architects insist upon "styles" they will get no first-rate sculptors or painters to aid them or to work with them. For the adornment of "styles" they have to continue to go to "firms" where they can be provided with as many shams as they require, all quite lifeless and hopelessly out of touch with the movement of this, or for the matter of that with any period, because they do not reflect it.

As long as "styles" are abjectly adhered to, art must remain dead! No artists, as far as we know, imitated the work of their predecessors; they wrought in the vernacular of their environment. In recent times Viollet-le-Duc, admirable antiquarian and voluminous writer, has given an example of the inevitable failure which must attend upon "styles" of decoration in many of the churches of France. Witness his cartoons in the Louvre and his wall paintings in Notre-Dame, about which nothing can be said but that they are wholly uninteresting.

Santa Maria Novella, in Florence, is a nest of anachronism according to the modern standard. The wall paintings there by Cimabue, Gaddi, Giotto, and Ghirlandajo, and by later painters also, are side by side. Ghirlandajo did not paint in the style of Giotto; he painted as his period dictated. The west circular window contains glass of the early fourteenth century; the west window is late fifteenth in the style of the period. Side by side are monuments which date from the fourteenth to the seventeenth centuries in the style of the period. So the Church, as it were, breathes history from its walls; its monuments and paintings are sincere demonstrations of their authors' originality and spontaneity. This is one instance out of hundreds which might be brought forward that proves the universal law that no art is really valuable which does not emanate from the spirit of the period which gave birth to its author. It is because of its sincerity of purpose that art interests us. Fancy Ghirlandajo decorating the portion of the church assigned to him after the manner of Giotto, or Giotto in that of Cimabue, because Cimabue painted on the walls of the church at the time of its erection; they would not, could not have been such slaves to pedantry.

As soon as architects design original buildings—which, by the way, here and there they do: irrespective of severe canons of proportion and orders, but structurally consequent and individual—they will find plenty of sculptors and painters to work with them; but as long as they design in styles no original men will be slaves to them: they must continue to get the adornments for their structures from "the trade." Is not it a mistake to specialise early? The young painters—indeed, the old ones also—know nothing or little about architecture; nor is the young sculptor made aware of the position that his work ought to hold in relation to spaces. Neither does the architect get a chance of working in conjunction with sculptors and painters, who should be his colleagues in his earliest days of training; they are brought up separately, and they remain separate; consequently neither their interests nor sympathies are current.

Finally, of course, the architect is the responsible person; therefore he should be a thoroughly equipped artist. Would it not be possible to avoid too early specialising? How few architects there are that know anything about colour! How few painters are even indirectly interested in architecture; and how few sculptors learn to be an attendant upon architecture! And what a loss it is to each that he is so ignorant of his sister arts!

The great men of past times were rarely specialists. Every one knows that Giotto was painter, sculptor, and architect. So was Raphael, so was Brunelleschi, so were Michael Angelo and Leonardo. Pheidias was the son of a painter, and was educated in that craft; Ictinus was a sculptor as well as an architect. I suspect they worked harmoniously; and no doubt whoever designed the colour scheme of the Parthenon did so in conjunction with his colleagues.

The well-equipped designer is able to cover a large field of action. If he can design in one material, why not in another? None of the techniques are so enormously difficult, either of building, carving, or painting, that they cannot be acquired by patience, *given the artistic temperament.* It is the artistic use of techniques acquired by experience which succeeds, or the reverse, in exact relation to the quantity of intelligence and judgment that have been put into it.

Our age is one of "harking back"—archæological more than creative. Certainly this applies to architecture. But in the arts of painting and sculpture such a term applies with far less accuracy. The best work now being done in them reflects the spirit of our time. Do the majority of our buildings do that? Does the Tower Bridge reflect our time, for example? When architects do so the sculptors and painters will almost automatically come into touch with them, and the crafts also with them.

To reiterate: no original designer, painter, or sculptor would execute in the thirteenth, fourteenth, fifteenth, or sixteenth century style to satisfy the pedantry of an architect, though if he had made an *excursus* into any of those styles he might be able to do so; but if he did, his work *qua* art and style would be quite valueless. The sculptor *makes* statues, the painter *makes* pictures; they do not design them only. Should not the architect *make* buildings? And, just as the painter and sculptor learn anatomy, should not the young architect be apprenticed to a builder, that he may learn the anatomy of his art and become in the highest sense a builder?

I confess to thinking that art education cannot be commenced too early or be too broad and inclusive. Specialism would follow according to the bent of the student's capacity.

Should not a young architect practise decorative painting and sculpture up to a certain point? It could do him nothing but good. And the same principle should, I think, apply to the education of sculptors and painters; early instruction concerning plan and structure could do them nothing but good.

Advanced students should, I think, be encouraged to collaborate. Given a model designed in conclave, made by the architect, to be sculptured by the sculptor and decorated by the painter, how interesting such efforts would become! What a stimulus they would give to the three arts! Each student having thus become conversant with the arts of his colleagues would be in a position to criticise as well as to appreciate them.

The three arts would thus grow up as it were together; they would not be strangers to one another. The great mother of the arts, Architecture, would take to her children again, who have separated from her, as she has from them, to their and to her privation.

The purist may imagine that Greek temples, early and late Gothic churches, or even early Renaissance, were bald and colourless ; but they were not : we know, on the contrary, that they were highly coloured and decorated, probably with what we, with love of faint anæmic tints, would call crude colours. And modern buildings may be decorated with strong colours ; why not ? Crude colour soon tones down if the shades are harmonious.

Purity does not reside only in form ; form is not its only exponent. Colour can be rich, splendid, strong, and yet be chaste. Chastity is not weak and anæmic, it is the sign of vigour and strength. Sculpture may be coloured even vehemently ; painted woodwork, marbles, gold and other metals can be introduced lavishly, without one jot of purity being injured. But such a revival cannot come all of a sudden ; we have to become used to experiments : these may be uncommon, unconventional, and as such they must take time to become established in and recognised by the public mind.

We have the material, minds and matter, for the most rich and splendid work, but upon account of the divorce of the three great arts and of the crafts from them more or less that material is only serviceable within a narrow range and under unduly restricted conditions. Once get young students, architects, sculptors, and painters, into touch with one another's art, and a really vital school will spring up with astonishing quickness. Architects will then take their proper position as artists and sculptors and painters with them in conjunction. Pedantry and its near relative dulness will cease to exist ; painting will no longer be considered as "The Art," and the other two as minors. To the attainment of this end we should, I think, struggle—an end which means union, wherein there is strength—share in the struggle and help, not hinder, each other's efforts. It is not precedence that any of us desire, but concord, mutual progress, and unity. We are individually striving to render England more beautiful ; let us try to do so collectively ; let us strike out for freedom, not license, but freedom based upon the only sound foundation, sincerity, combined with knowledge of the various branches of what after all is but one art.

III. FROM THE POINT OF VIEW OF THE SCULPTOR. By E. Roscoe Mullins.

It may well be that a sculptor will approach the subject of the collaboration of architect, painter, and sculptor from rather a more stringent point of view than would a painter ; for whilst a painter can and does develop his art alone, independently of the other arts, requiring only house-room, his art not suffering if so separated, it is otherwise with sculpture. A sculptor, I maintain, is only truly working out his art in its highest conception when he is working in unison with architecture, and is controlled and inspired by its conditions and limitations ; and in so far as the willing hand of architecture is not held out to sculpture, the art suffers. The natural and rightful place for sculpture is in connection with or upon buildings, which it should ennoble and beautify by its presence ; the treatment of sculpture should depend upon the particular lighting that the chosen position and the surroundings would give it, and much of its shape, arrangement, and effect must be due to the space allotted for its filling.

This is not, I know, the popular view of the art, but that it is the true one a glance at the past great periods would prove. I can only, in the short time allowed me, give this glance, but detailed inquiry would bear out my statement. There is hardly a work of sculpture in the British Museum that is not decorative in the true sense—that is, work that was applied to buildings, executed for buildings, of which the beauties can now only rightly be appreciated by recalling the buildings the work was designed to decorate. In the days of the Renaissance it was equally so: Michael Angelo, Donatello, Luca della Robbia, Ghiberti, all collaborated with architects, and their best work was done for architecture. In the Gothic days, too, this truth is equally apparent, which a visit to the chapels and tombs at Westminster abundantly proves.

It is only in these days that the direct union has been lost, and the art has been conceived as standing alone—*freistehende*, as the Germans say—and, like painting, thought to be free and independent. Nothing has fostered this false view so much as the prevailing custom of exhibitions, and I must also add museums, for in both we see sculpture isolated, in no connection with the place it is designed to fill. In exhibitions we accustom ourselves to a standard of isolation, forgetful of the main purpose of the work: that is, its surroundings and the causes of its shape and treatment. This aspect is lost in the æsthetic admiration of the work alone. Decoration in former days did not mean a mere filling up of space by some stone carver or so-called monumental sculptor, but rather the representation by the nation's most gifted sculptors of the stories and legends believed in by the people, and executed in such a manner as to enhance the beauty of their national buildings, and make complete and explain what would otherwise be bare and unintelligible. This was decoration in the past. How differently in our own day is decoration understood, when it has too often come to mean merely endless repetitions of meaningless ornament, as suitable to a tavern as to a church!

To show the evils of backsliding, we may note the tendency of sculpture, when separated from architecture, in the popular form it takes at exhibitions, to develop into a species of bric-à-brac and *objets de vertu*—statuettes rather than statues, coloured combinations of assortments of stones and jewels, surface treatments of realistic skin-folds, and often ugly renderings of nature—anything, in fact, but work possessing the properties of true sculpture, which should depend upon breadth and knowledge of light and shade, and simple massing of form. In our Royal Academy the influence of the painter is felt on sculpture instead of that of the architect, and the result is scarcely satisfactory. It is natural that truthfully-modelled surfaces, literal renderings of nature, and combinations of colour would have more weight with a painter than with a sculptor; but in sculpture such tendencies conduce to realism, and the closer the imitation the less is the art displayed. Too often the work, when done, is only suitable to become part of a rich man's collection of isolated treasures, that only the few therefore can possess, rather than fitted to belong to the nation as a whole, as it could do if it were executed for public buildings.

There is one other evil I should like to mention, to which the sculptor is prone if he is detached from architectural control, and that is making the search after beauty as his one aim. To me it always appears that no theory that has been advanced has done so much to destroy individuality and original talent as this loadstone of beauty. An artist, who is seeking for beauty alone, is as a man seeking for happiness—a desirable end to attain, but never attained by directly planning or searching for it. And it is the same with the attainment of beauty in sculpture; the end is only reached by having some more definite object in view, while the vague search for beauty only leads to imitation and trite conventionality. Let the immediate purpose of the work, however, be simply the desire to tell a story in the best possible way, and to adapt it to the place that the work is to fill, then the element of beauty will still possibly be there, without striving especially for it, and at any rate the work will be stamped with individuality.

Perhaps the time when least attention was paid to architectural decoration was at the beginning of this reign, when sculpture was represented in this country by Gibson; and his work shows the effete result of a one-sided striving for beauty, that ended in the neglect of nature and the adoption of a pseudo-classic treatment, uninteresting and unmeaning to us Englishmen of this century.

Since that time we have advanced in the right direction, and some of our best sculptors' work can be seen on buildings, forming part of a whole scheme, and helping the purpose of the buildings for which they were intended. But though we have moved in the right direction, there are yet misconceptions to remove before sculpture can be fully applied in its true field as the co-mate of architecture. This is brought home to us when we note the one form of sculpture that we may say is fairly tolerated in England—that is, portrait sculpture. Supposing we accept this form as characteristic of the nation—and I fear we have not yet risen to things higher—can we say, except in a few instances, that we have succeeded in portraying the individual man? I think not. The very size in which we depict him—I refer to outdoor statues—is sufficient to prevent the sculptor from giving an individual rendering of his subject. He is content if he succeeds in getting a portrait of the face, while to the figure he gives general classic proportions, so that we have individual heads on our statues that would fit equally well on any other statues' bodies and legs.

Now, if these portrait statues had been designed to fill niches or stand in courtyards, or to be placed in front of buildings, of which they would then form part, the size of the statue could be diminished, and attention given to the portrait of the man as he is, or was, not merely in face, but in figure. I maintain that no portrait statue should look more than life-size; it ought, that is, not to strike the observer as abnormal; the extra size that is given should be due only to the necessity of the surroundings and the height at which the statue is placed. I think the only form of sculpture that will stand the test of isolation is work with strong action, as some equestrian statues, and ideal work that is not subject to the restrictions of modern dress; but even these are improved by a background at least of trees.

This association with architecture would open other fields where the sculptor's art could assert itself, and where the nation's desire to perpetuate the memory of her great sons could be encouraged. For instance, a Hall of Heroes, a Walhalla, would be far more interesting and instructive, where the deeds of the great could be recorded, and where the whole building could be devoted to that end, than is the prevailing custom of thrusting statues, as we do now, into Westminster Abbey and other noble buildings not designed for them; where they are void of meaning, and destroy instead of adding to the beauty of these buildings. In a modest way, too, I think there is room in our cemeteries and churchyards for a happier union of the two arts. Most of the sculpture we see there, besides being commonplace in design, is often vulgarly obtrusive; yet I think a cemetery should be a home for good sculpture, and it could be made so if the sheltering hand of architecture were there too, to give restraint—a necessary element and especially appropriate in a place hallowed by the association with our dead.

In so short a paper it would be out of place to enter into matters of detail, and I think, even with unlimited time at my disposal, I should hesitate before laying down any rules or restrictions as to methods of work or treatment of subjects. One might with equal right prescribe the style in which an architect should build. The only two conditions I consider essential are that the sculpture, whatever its character and wherever placed, should be seen in its entirety, and the form the work takes should be the suitable one for the position; not as in the case of the frieze that runs round the Athenæum Club in Pall Mall, and again over the gateway at Hyde Park Corner, which are copies of the well-known Panathenaic frieze of the Parthenon, but which are placed under quite different conditions of light and position than those that guided the architect and sculptor of the Greeks in their choice of the style of relief.

In decoration the sculptor should assert his own individuality, and not be bound by effete laws of design; there is no other golden rule to follow, to ensure interest and vivacity, and interest and vivacity are two of the three elements necessary to all true decoration. The remaining element is the sense of restraint alluded to before; for although the spectator should be conscious of the expression of movement, yet he craves at the same time for repose, and this is added by the restraining force of architectural surroundings. This restraint, instead of hampering the sculptor, really brings out the strength of his art, and shows its manifold capabilities of adaptation to required ends.

To sum up, I have intentionally dwelt upon the advantages accruing to sculpture rather than to architecture in this desired union of the two arts, and have left the gain that would belong to architecture to inference only. This I regret the less, as that side of the question has been fully entered into in the wider treatment accorded by the reader of the previous paper. The points I would insist upon are these: that it is against the best traditions of the past to divorce the arts of architecture and sculpture; that this divorce leads to a low estimate of sculptural decoration, as well as to a want of direction and meaning in the sculptor's work; that gallery exhibitions of isolated works belittle the art of sculpture; that portrait sculpture is shorn of its character and truth, which can only be truly given when incorporated in a wide scheme of decoration. For these reasons, therefore, I maintain that a healthy demand for sculpture and a capable and satisfactory development of the art can only be attained by returning once more to the traditions of the past and effecting a closer union of the kindred arts—architecture and sculpture.

DISCUSSION.

Mr. Wm. Emerson, *President R.I.B.A.*, in the Chair.

Mr. **Selwyn Image**, Master of the Art Workers' Guild, remarked that they had heard three short, but extremely suggestive, papers by three eminent artists on a subject of the highest importance. The compliment had been paid him of asking him to open the discussion. He appreciated the compliment very keenly, and he frankly confessed that this Congress seemed to him to be of very great importance. The real importance of the Congress, if he might say so, seemed to lie in the ability of the readers of the Papers and the speakers who followed to realise the great fact that they now had the representative body in England of the great mother art calling into its councils artists of all kinds to assist it with their advice. And the Royal Institute in this Congress was insisting in the strongest possible manner on the immensely important principle which had been so often forgotten, and for which some of them had for many years fought so strenuously—namely, the great principle of the unity of the arts. The Royal Institute, in taking this action, had done something to bring about the union of the arts. Now the union of artists, and the great principle of the unity of the arts, did not mean in the least that they were to sink their differences and to become of one mind. Such an event, even if it could be arrived at, would be most undesirable; but it was a great thing indeed to meet men in the flesh, to see people whose work they knew, see what they were like and to talk with them. It was astounding how many prejudices and misunderstandings were got over in that way, and how much their own views underwent change when they met people in the flesh and face to face. In connexion with this he always thought of the old story of Charles Lamb. Somebody had been running down a certain gentleman whom he would call Mr. Brown. Charles Lamb got into a furious temper, exclaiming, "I hate Mr. Brown!" The gentleman replied, "You cannot possibly hate Mr. Brown—you do not know him." "Know him!" exclaimed Lamb; "how could I hate him if I knew him?" That was in his (the speaker's) view an admirable way to put it. He thought artists would not—he would not say hate one another, but misunderstand one another in the way they did if they only met together. Hence it was a great achievement that the Institute had brought them together. It was impossible that there should not be some division amongst them, and it was impossible that there should be one prevailing style; but it was possible for them to get rid of all misunderstanding, and to cultivate catholicity of taste and temper. In reference to this there was an admirable saying of Pope's, who, writing of a certain nobleman commending him as an authority on matters artistic and literary, remarked that he had so bad a taste as to like all things which were good.

Mr. **Heywood Sumner** said that he agreed with Mr. Image that the three Papers were very suggestive and very helpful in that they breathed the spirit of unity and concord. They seemed to combine in creating a visionary design of the arts of peace, with the architect in the centre holding out both arms; and they saw on one side the painter and on the other the sculptor rushing up to be embraced, while over them hovered Mr. Image as the angel dropping flowers of speech! For himself he (Mr. Sumner) appreciated extremely the hearty welcome that had been accorded to the young arts by the mother art. Beginning with Mr. Mountford, he was constrained however to remark that he had heard many architectural friends speak upon the subject of the unity of the arts and about working together, but they scarcely if ever finished off except by saying: "Of course, the architect is quite independent, and can, if necessary, stand alone." Mr. Mountford said this in a most kindly way, but he did say it, and he took up the gauntlet. It was perfectly true that the architect could stand independent of the painter or sculptor, just as Mother Earth could stand independent of growth and life of any sort. Sometimes it seemed to him that if the architect had created the world he would have stopped in the middle of the third day, with the excuse that he did not want the sun—that would bring on too much colour; nor fish, nor birds, which we could do quite well without; and man and woman, because they would bring about frightful confusion. Seriously speaking, was not this position of the architect quite unfair? It seemed to him that if they looked at the nobler manifestations of architecture in the past they would see it was as a real mother that she extended her arms to the other arts. Mr. Mountford, on the other hand, would call in the painter and sculptor, but he would keep them in their place. Mr. Mountford seemed, indeed, a little afraid of colour; but Sir William Richmond literally revelled in it, and Mr. Mullins did not, with Mr. Mountford's flourish, say that the sculptor should be independent; on the contrary, he desired him to be dependent. In that he (the speaker) cordially agreed with him, likewise with his remarks about the exhibition and the Museum. With all their admiration for the great work that had been done by the Museum they must always remember that what work they saw in it was applied work—they were works the flotsam and jetsam of centuries, and they had found at last a home in a rather solemn sort of cemetery, the Museum. He thought that the present attitude towards art and works of art had to a certain extent been fostered by museums. That was the very danger. He, however, did not think he could follow Mr. Mullins when he spoke about the statues in Westminster Abbey. They represented the century in which they were erected, and the Abbey would not be the living building it is without them. As to the cemetery being a good home for sculptors, it certainly was now a good home for bad sculpture. He confessed that in the papers there was plenty of sympathy, but there was no direct "Open, sesame!" for working together in collaboration.

Mr. Beresford Pite [*F.*] observed that the line taken by Sir Wm. Richmond in regard to the distinction between styles and style was one of very great importance to architects, and one Mr. Street had given expression to in some Royal Academy lectures which he (Mr. Pite) had had the pleasure of hearing. He could not give Mr. Street's definition between styles and style in his exact words, but he could give them the substance. Mr. Street held that style was an expression of character—the expression of the artist's feeling, rather than a copying of certain forms of architecture. That coming from a man like Street, who was regarded as being bound hand and foot to what he (the speaker) would call the corpse of Gothic, was very significant. The difficulty they encountered was that they were living at the close of a period of Renaissance, for, since the Renaissance put the world upside down, and the arts destroyed themselves, and students began to study from foreign foundations and drink from ancient waters, they had lived in much of a Renaissance, and they could not work themselves free from it. If they stripped an architect of his style—his architectural style—what was left? He was left to his own resources, to his own character. He had, say, been struggling with that for the past five years, and had now a style which he could only designate of the magpie-and-stump order. He had rubbed out everything, leaving only the bare walls and windows, which was nice so far as it went, but it did not go far enough. Let that architect strip himself of architectural styles and undertake a monumental work—say a national memorial work in Hyde Park. How would the magpie help him? He would be bound to go to the Renaissance, although he had the whole world of beauty open to him. He was bound to come to the conclusion that the cultivation of architectural character would have to be tried before they attempted the cultivation of architectural style from character.

Mr. Wm. Woodward [*A.*] remarked that the subject was somewhat academic and theoretical, and he had hoped that the discussion would have taken the form of suggesting the manner in which the wishes of the readers of the Papers could have been accomplished. His first thought on hearing such Papers was to look around and see if there were any examples in which the unity of architects, painters, and sculptors had been successful. There was one building, namely, the University of London in Burlington Gardens, which was a very successful example of this union; but in the majority of cases many difficulties arose, the painter wanting projections, which the architect could not spare, taken away for the purpose of giving effect to his decoration, and the sculptor desiring other alterations for the benefit of his work. For the purposes of such a union they needed entire sympathy, and when that had been secured then they would be able to have that unity of the arts which all in that room and the public generally desired.

Mr. Aston Webb, A.R.A., F.S.A. [*F.*], said that unfortunately architects were looked upon as not altogether sympathetic in the movement for the unity of the arts. He thought it could not be denied that they were most anxious for it. The difficulty to be solved was how to practically apply this principle. All art and imaginative work must be created, and it seemed only right and essential that the first creation of the building should rest with the architect. If after that they could collaborate with the artist and sculptor so much the better. There had been a house recently built in the erection of which a sort of co-operative system had been applied, a system in which an architect associated with himself a number of artists and craftsmen. That had worked very successfully, and so far as he had heard there had been no falling out amongst those engaged on the work. That certainly was an encouraging example. Another instance was the Albert Hall. Captain Fowke originated the general conception of the building, but, dying before it could be carried out, General Scott took command, and he associated with himself a large number of artists and craftsmen who carried out the work. General Scott read a Paper before the Institute at the time, describing how the work was done. He laid down the general lines of the oval plan, and then called into consultation the painters to design the great frieze, and architects and craftsmen who designed, and carried out the design; and here again he thought the result a success. Architects were not altogether to blame for the separation that had taken place between the arts; the work of the painter had become attractive almost to the exclusion of the decorative arts. It was Ruskin who said somewhere that it did not matter if a man spent three months in painting the petal of a flower, or covered a palace front with colour in a single day, so long as he had his whole heart in what he was doing. But they must see how they could employ the art of the painter with some hope of permanence, for no art without permanence was likely to call forth the best efforts of the artist. With reference to style, Mr. Pite had said what was true in declaring that a man could show his individuality in a style that had already been worked upon. To ask an architect to design a house in the Elizabethan style or in that of the thirteenth or fourteenth century was an insult, and one could easily sympathise with sculptors and painters who declined to be dragged into such vagaries as this.

Mr. H. G. Ibberson [*A.*] said that an architect's chief difficulty was not in dealing with the painter or the sculptor, but with the public, which was the master of all three. The public, like Nature, abhorred a vacuum; it hated plain surfaces, and liked its decoration spread thin and cheap over the whole building. Why should it spend £100 in enriching a doorway with sculpture when the same amount would make the whole elevation beautiful with masons' carving, and give so much greater evidence of the wealth of the proprietor!

Mr. Geoffry Lucas [*A.*] said it seemed to him that Sir William Richmond had been somewhat hard on architects, for it was not they alone who should be accused of incapacity to produce fresh developments; but painters and sculptors, to judge by the annual exhibitions, might very well be included in that statement. To-day architects were probably more dictated to as to what they should do than workers in any other branch of art; and painters and sculptors were more voluntarily antiquarian in their sources of inspiration than architects. How very rarely was any serious effort made by painters to illustrate modern life, or to express great ideas and sentiments by present-day surroundings. Sculptors had made more effort towards these attainments, and in some cases successfully; but they were often ignorant of architectural matters. It was a unique experience to come across a successful pedestal to a statue, or architectural surroundings to a work when left in the sculptor's hands. Sculptors were inclined to put art before use when they undertook architectural subjects, and in illustration he would mention a font exhibited in that year's Royal Academy. The font and cover were wonderful pieces of work, very nebulous, which was the fashionable thing in art of all sorts to-day; but as exhibited they appeared quite unpractical in use, and directly contrary to the requirements of the rubrics. A great deal was said nowadays about a man's individuality showing in his work; but it was exceedingly questionable to him how much this should be expressed. If they took some of the great buildings of the past, even in the Renaissance period, they found the ruling principle was the revelation of the spirit of the age in which they were put up. There was not so much in man's individuality as some thought. Outside influences and environment had great effect on art work. St. Peter's did not owe its greatness to the employment upon it of particular architects so much as to the fact that the Popes required a big thing, and the architects had to supply it. So in the collaboration of architect, painter, and sculptor it was evident that if each indulged his own preferences the work would not hang together as an harmonious whole; but if each strove in his degree in every way to suit his work to its environment, and to grasp and interpret the spirit of the work from the same standpoint, there was every chance of a great and glorious building being the result with the talent that was obtainable to-day.

Mr. W. H. Seth-Smith [*F.*] said he should like the Conference to know what was being done by the Architectural Association in London. He was very pleased to hear what Sir William Richmond had said about a broad training in art, and he could state that that was the kind of training which the Architectural Association were giving at the present time. Any suggestions which Sir William Richmond and other artists, painters, and sculptors could give would be most welcome. They were giving courses in painting—water-colour work particularly—and also in modelling, by the very best men they could find, and they considered that allowed a broad basis for architectural training.

Mr. A. N. Paterson, M.A. [*A.*] (Glasgow), said that to bring the matter of money into such a subject was to lower it from the high altitude it had gained; but, after all, as they all knew, money had a serious effect upon the limits of the work they had to do and the clients for whom they had to work. He found this difficulty with the painter, that that artist did not sufficiently recognise the difference between painting a picture on the chance of selling it for so many hundred or thousand guineas and a definite commission for the filling up of a space in a building. Painters had become so accustomed to selling squares of painted canvas that they were not prepared to consider the possibility of doing decorative work in collaboration with the architect for such a sum as his client was prepared to pay when the price per square foot was smaller than that fetched by the framed picture in an exhibition, forgetful of the fact that the one was financially a certainty, the other, in many cases, but a chance. The result was that in all but the most exceptional instances, in what might be called monumental work, the architect was forced to turn to the house-painter, who in general could be little relied upon outside of stencil work, with all its limitations. Gold frames and exhibitions had, in fact, placed a fictitious value on the art of painting, and the collaboration under consideration was in too many cases rendered impossible in consequence.

Mr. E. W. Mountford [*F.*] said his reply needed only to be very brief. The styles must obviously be always with us, and architects had of necessity to make a careful study of them. Before undertaking to write a book one must at least become acquainted with the alphabet, and even some knowledge of grammar is desirable. In these days many architects, and not only the younger ones, rightly attached much more importance to style in designing than to "correctness" of any one of the styles. Modern buildings should primarily fulfil modern requirements, and the better they did this the more likely were they to be works of art. With regard to Mr. Sumner's humorous remarks about architects and creation, he would only say that if the Creation had ended at the third day humanity would have been saved a lot of trouble!

Sir Wm. Richmond, who also replied, said he quite agreed with what had been said by one gentleman, that the matter rested a very great deal with the public. There was one instance of the overweighing of public opinion that came conspicuously before his notice when he was a member of the committee appointed to arrange for a memorial to Mr. Gladstone. He undertook to frame a careful statement of what the monument should be. In the first place he held that Mr. Gladstone should be represented from the larger and broader point of view—not only as a statesman, but as a lover of literature and as a refined and cultured Englishman. The suggestion he made was this: Obtain a small site in St. James's Park; get the best architect they could to design a beautiful little building; get the best sculptor they could to make the best effigy, recumbent and studious instead of representing him in a state of emotion—that was to say, to depict him resting from his labours, with representations round about him in the chamber of all that had helped to make his life as interesting as it was. There was £60,000, a sum with which a great deal could have been done. Did they accept his ideas? No. What they would have in deference to the public wish was a gesticulating statue. Several such had been erected, one in Edinburgh—he believed they refused to have one in Ireland. But Mr. Gladstone must always be represented as being in the House of Commons. As long as the English public took that view of the man, and regarded him as a specialist in life, so long would it be impossible to shake off that "specialism" and memorialise the man on account of his achievements in literature and his attainments in learning. Sir William proceeded to offer some remarks on fresco painting, and spoke of the value of the yolk of egg as a preservative against the action of the atmosphere. He reminded them that a great interest centred around the recent discoveries of paintings in Crete, and mentioned that he had approached the Hellenic Society and had offered to go to Crete and make copies of these pictures, which were supposed to date from 800 years before Homer. If the Institute would allow him on a future date he would have pleasure in addressing them on this interesting subject at length.

Mr. Mullins confined himself only to the point raised by Mr. Sumner, remarking that he would not like to see the statues removed; for, although they were not decorative, they were at any rate free from the most annoying sculptural features.

The Chairman said it spoke well for the dawn of the new century that such a discussion should have taken place that day. There was considerable truth in the remark that the public wanted educating, and that education could come through literature. It was the great revival of literature that finally aroused the Renaissance in Italy. At the same time a good deal depended on architects to foster that education. At all events it showed great prospects for art in the new century that there should be so strong a desire for architects, painters, and sculptors to join hand in hand in making art abreast of the times.

THE IDEAL CITY.

By Halsey Ricardo, Mrs. Basil Holmes (read by the Right Hon. the Earl of Meath), W. D. Caröe, M.A., F.S.A. [*F.*], and T. Stirling Lee.

I. GENERAL SURVEY. By Halsey Ricardo.

THE object of my Paper to-night is to try and precipitate, by means of discussion and suggestion, some conclusions as to what an ideal city should be, and also some agreement as to what a city should not contain that set up any claims to be beautiful. What is it we want? We go up and down this city of London, for instance, open-eyed and open-mouthed, eager to observe and loud in our expressions of disapproval; but what *do* we want? What are our ideals? Abstract disapproval is so easy, and often so unhelpful—almost any one of us can condemn, but when bidden to specify alterations, difficulties—*the difficulties* in fact—at once begin to appear. Are we agreed as to what we want? And by we I do not only mean architects, I mean amateurs of architecture, cultivated people, men of taste, those who have given thought to the matter, made their observations on other towns and digested them, County Councillors, all those who have the care and the guardianship of this our city. What is it you want, and are you agreed upon it? What are your ideals? We architects want to know. They are your ideals that are being carried out. Architecture, so far as it is living art, is the realisation of the aims and needs of those that produce it, and the vernacular architecture of any given period is the index of the general feeling and temper of that age. The few sporadic attempts to do scholarly, antiquarian, or reactionary work have little influence on contemporary work, except where it happens to find itself in sympathy with those views; the great mass of building and construction generally is the true exponent of the popular view of architecture. Are you content? and, if so, why do you grumble? We talk of a city being beautiful, but we smile at the idea of making London so. Why? Even if, in these humble-minded days, that were too much to propose, could we not, if we wished, prevent its growing uglier? As it is, London gets more and more hideous every day. We never see an old house threatened with demolition but what we have to fear a loss in its successor; we never see a concerted design in architecture, such as some of our squares, a few streets like Stratford Place and others, but we know their harmony is soon to be disturbed, and that quality of unity got by gracious co-operation will be burst in upon and flung into the gutter. We have buildings we call masterpieces—can we not at least preserve them unharmed? We allow the appearance of Somerset House to be defaced by mean additions. We talk of alterations to Waterloo Bridge; Hawksmoor's Church is undermined by a railway station; the moment a monument comes in the way of what is called the "convenience of the public" it is doomed and disappears.

Is it true, is it probable, that we cannot have what we want? What is it stands in the way? It isn't money. We can afford to have our way. We hear ourselves described as an indomitable people, and we accept the epithet with complacency; it is not from want of saying that we know we are rich. We may not be an artistic people, but we are good organisers and governors, and such a standard of magnificence as Rome achieved might be ours, did we desire it. The trouble is that we are not agreed as to what we want, and we are not sure that we ought to want it. Directly we are all agreed upon some public matter, an architecture springs up in response, and according to the quality of the sentiment so is its interest. The National Conscience has for long been deeply stirred by the sight of helpless suffering, and the hospitals we have built to alleviate that and to increase our knowledge as to its prevention form one of the contributions of fine living architecture to the nineteenth century. So, too, are the great asylums. The care and thought, the quintessence of medical observation and research, have been gathered up and sublimed into formulated necessities, which have dominated the buildings erected in compliance, and by their insistence have given strength, and history, and interest to these structures.

Other contributions to the architecture of our time are our Board schools, museums, public libraries, and technical institutes, based also on a popular desire to improve the conditions of our life. Abate something of the virtue of the impulse, and the standard of interest in style of architecture falls immediately. The theatres, restaurants, and gin palaces, all rise in response to the popular call, and the nobleness of the demand dictates, in proportion, the nobility of the architecture. But in these instances there is, broadly speaking, a general agreement and codification of our desires; it is not so as regards the general treatment of our city. What is the view one is to take of London? That it is a vast workaday centre, from which all who are fortunate enough flee, after the day's work is done, to a bed in the country. If so, let us at once set about accentuating the position and importance of the railway stations, let us widen and straighten the routes between them, let us concentrate within a ring, if possible, the industrial nucleus, and separate the residential from it with an insulating zone of open space. We shall not make the city beautiful, it is true, but we might possibly its suburbs.

The day has gone by when the city was walled round for shelter and defence, and the great gates of old times have been replaced now by those huge vomitories—the railway termini. But the gates of the walled city were prominent features both from within and without; their purpose was unmistakable and resulted in characteristic form. Cannot we do as much for our railway stations? Merely to clear away a wide space in front of them and to make the route spacious and direct, would do much to give them distinction. Although I myself repudiate the idea of treating London as a mere workshop, still it is at least a definite treatment, a definite conception, and definition is what is at present so forcibly lacking in the handling of our city. The anxious, fevered scuttle from station to office, and from office back again to catch the train, is not a particularly fine idea, and is not likely to bring about particularly fine results; but, poor as they would be, they would be preferable to the present welter and the sense of compromise got from adjusting small individual claims. Or shall we take the view of London that it is a place to be proud of, and that we mean to be proud of it and keep it as a source of pride? There are many things that would justify us in this attitude—the river and some of the bridges that span it, and the Embankment that confines it; the Abbey, the Cathedral, the many churches and public buildings, some few of our squares and streets—possibly our parks.

And what should we do? Well, I am talking of the Ideal City, and I permit myself some flights of fancy that may be condemned as not altogether practical, though I try to keep on the hither side of Utopia, and so I answer, "Keep them." Keep our public buildings, keep our bridges, our squares, and our streets (those that we are agreed upon as embellishments of our city), keep them as they stand, at least for the present. As they are the subjects of our pride, let us treat them so; let the access to them be obvious and direct. Take the river for example. Let it be embanked on both sides, and let us have occasional glimpses of it from the Strand, wider and less squalid than the few grudging peeps which we can with difficulty now get. We are incessantly increasing the span of its bridges to facilitate the water traffic, let us have a traffic that may be pleasant to the eye and handy to the passenger.

A swift service of small steamboats, trim and tidy, would help to relieve the congestion of our streets, and in many weathers and to many people would be a welcome alternative to the pavement. I said "trim and tidy" because on the grounds, seemingly, that we are rich and industrious we cannot afford to be clean and decent, and have not the time to be bothered with the necessary trouble; so London is disgusting and smelly owing to our slovenliness. The pride in a neat and perfect turn-out still clings to the stable, the harness-room, and the coach-house, and, by an association of ideas, somewhat affects the railway train; but the pavement is a fixed, interminable spittoon, and the tops of omnibuses a travelling one. In my ideal city, my impracticable Utopia, I would have a higher standard of cleanliness and scavenging. I would have more pageantry, more processions; and I would make many of them go by water. The Mayor and his state barges should be a familiar sight on the Thames. And I should like more music, especially on the water. The organ-grinder, the solo instrumentalist, "the German band," and all such small enterprise I would banish utterly from the streets, as well as yelling ruffians, street cries, and newspaper pitches; but in compensation I would increase the quantity of music already provided by the County Council, and I would provide a supply of kiosks in the streets where people could buy their papers in peace. We are surely all agreed that noise and disorder are ugly features in a city as well as in a house; and yet we permit great shouting letters, winking and glaring lights, every form of eye-torture that may sear itself indelibly on the brain—for the object of many of these advertisements is that you may never forget them again for the rest of your life. In the Ideal City there would be a control over these street distractions, so as to secure some uniformity of effect. Nor should the streets preserve their haphazard character, so far as their general growth and expansion may give us chance for correction. The great streams of traffic should cross each other at right angles. The railway stations, the great creators of the swift-going traffic, should be recognised and their influence accepted, and the shortest direct routes to them taken in hand and developed to meet the case.

But life is not all a hurrying from one anthill to another; there is such a thing as leisure and the enjoyment of it, there is such a thing as work which may be done deliberately and in quiet. Let us preserve, then, the back-waters and retreats, where we can find them in London, and ensure that they shall not be arbitrarily invaded. They should be the shelters of our monuments. Each year we erect fresh statues in memory of famous men, but we have nowhere to put them, and they stand in the howling chaos of our streets, pitiable and helpless, horribly misplaced—or else they are thrust out of sight in narrow streets or chance corners. What a terrible misprision of their qualities this argues! It is part of the same temper that treats a piece of sculpture, an obelisk, or a fountain quite without reference to the site it has to occupy or its proper function, which is to add to, and accentuate, the general architectonic character of the locality it is to adorn. Architecture and decorative and monumental sculpture are not, as it seems to be thought, matters merely of detail, and immaterial how they may be combined, having no necessary connection. Architecture in our cities should be the expression of our ideas, the ideas of a community: our corporate, not our individual desires. The aspect of our streets concerns us all, and such individuality as there may be in it is pleasant to us, so far as it reflects the history of the locality and such human characteristics as are obviously gracious and kindly.

Lastly, there is the question of colour in our Ideal City—colour, natural and artificial—

both of great consequence as regards beauty, and both requiring broad concerted treatment. Natural colour resolves itself into grass, trees, shrubs, and flowers.

I will leave the parks as outside the province of my Paper and consider the use of grass and foliage as it concerns our streets and open spaces. That much can be done by a mere strip of grass is shown by the breadth in front of the National Gallery. But why should we pause there? Why not compress to half their area the fountain basins in Trafalgar Square, and turf the square—introducing, during the summer months, a few formal-shaped trees in tubs or boxes, to give contrast and variety to the green? Then the trees in our streets. At present they are planted at the sides of our streets, in the pavements, and the contours of the trees chosen are incompatible with the position assigned. They cannot grow properly without interfering with the light and air of the adjacent houses. Trees, such as planes, with spreading foliage, should be planted in the centre of the streets, where they can flourish unmutilated and be of service in dividing the traffic. Where practicable, our streets should open to disclose a vista of green or a peep into the verdure of our squares or a glance on to the parterres of our Embankment. Of artificial colour little has been tried; and that little, done in experimental, isolated ways, is worse than useless. Colour must be treated broadly and in mass; in small quantities it is mainly irritating by its spottiness and the want of co-operation with the rest of its surroundings. Colour, quite as much as any other quality of architecture, must be used to express not merely individual whim and fancy, but must symbolise some general purpose and aspiration. Consequently, if we are to have colour in our streets, we must treat it heraldically. This has been recognised in some measure already, where colour has been employed by bodies of men—such as the State, vestries, parish councils, railway and other companies. Here in London, each parish colours its lamp-posts the parish colours—the dust and water carts carry the proper parochial bearings and legends; throughout Great Britain scarlet is the official tincture of the Post Office, black and white the traditional heraldry of the Coastguard stations. Our railway trains and our omnibuses tell by their colour the companies to which they belong and the routes they take. We have London already divided up into various divisions—electoral, parochial, and the like. Let us take advantage of these and display those divisions outwardly to the eye. Already the parish lamp-posts, and other obstacles, are distinguished from each other by pattern and colour; we might go farther and define the boundaries of the parish by the colour of the area railings, and some form of superposed tint or quartering in part might define the electoral divisions. Moreover, the vestry hall and parish library would gather up in concentrated form the accepted heraldry of their office and locality, making them landmarks in the neighbourhood by the splendid richness of their colour, containing in their accumulation the separate badges and symbols elsewhere distributed through the locality, and explaining in the sum of their achievements the various voices whose utterances form the chorus of civic life.

Many are the Ideal Cities that might be shadowed forth—but our first concern is to settle what is to be our attitude towards the city as at present. Are we here on sufferance only, or do we mean to reside in it and consequently make it worth residing in? This point settled, the conditions of our residence will help to formulate our ideal, and by organised co-operation we can work towards this end; and once clear in our minds what we want, we can push confidently towards the fulfilment.

II. PARKS AND OPEN SPACES.

Prepared by Mrs. Basil Holmes, Secretary of the Metropolitan Public Gardens Association, and read by the Right Hon. the Earl of Meath, Chairman of the Association.

IT is difficult in the course of a quarter of an hour to speak of work which has been going on in our country for several centuries, or rightly to convey any idea of the magnitude of the need for open spaces, and the various manners in which succeeding generations have endeavoured or have neglected to meet this need. The tendency to congregate into towns has always been in existence, but there has also been a corresponding desire on the part of the people to spend their holidays and the unoccupied hours of their working days in the fields and amongst the trees and hedges. The early chroniclers of English history describe all manner of sports in the fields, the making of spring garlands, May-day feasts and rejoicings in the woods, and many pleasures and pastimes on the open lands, the moors or commons, surrounding the towns and villages. The "open space movement" has been represented during the past three or four hundred years by innumerable struggles to keep free from encroachment such public lands as the Moorfields, on the north side of the City of London, and the commons, heaths, and forests throughout England, by ancient enactments limiting the increase of towns and the proximity of houses, by the opening of the royal parks, by the formation of square gardens and pleasure grounds, by the provision of fore-courts or back yards to both small and large houses, and by public and private benefactions and legacies of lands to be dedicated to the people as village greens, commons, parks, or allotments. During the nineteenth century, when the development of the towns became so extraordinarily rapid, a more vigorous effort was needed to provide breathing spaces for their inhabitants; and since the year 1847 many Acts of Parliament have been passed relating wholly or partly to the preservation, acquisition, or maintenance of open spaces. Voluntary societies have come into existence to preserve or provide public recreation grounds, with the result that large parks and commons have been secured in and around our towns; churchyards, squares, and other small spaces have been laid out amongst the streets; while trees have been planted and seats have been placed in the public thoroughfares. But the ideal citizens of an ideal city would not be content with such spasmodic efforts and such varied methods of procedure. They would provide open spaces in a systematic manner from the time of the commencement of the building of their cities. And I can only hope to throw out a few hints as to the way in which this might be accomplished.

The plan so much in vogue, some fifty or a hundred years ago, of building houses in "squares" has much to commend it. But such squares should not surround gardens enclosed with railings, to which entrance is only allowed to the tenants of a certain limited number of houses. The square gardens should resemble the Continental "places"—open day and night, provided with grass, trees, fountains, flower-beds, and seats, and, like the surrounding streets, under the control and patrol of the police. The wider roads should be planted with trees, either near the houses or in a double row in the centre of the carriage way; this would afford shelter in rain and shade in sunshine. All the public elementary schools should have good playgrounds attached, open to all comers out of school hours; and in addition to these there should be separate spaces, playing fields or open-air gymnasia, provided for children, with proper instruction in the use of gymnastic apparatus, so that it might be impossible for any house in the city to be situated more than a quarter of a mile from a public playground. And these playgrounds should be attractive as well as useful, with a part set aside for trees and shrubs, flowers and seats. No large division or ward of the ideal city should be without its park, capable of being illuminated by night, where broad expanses of grass might be seen, and where stretches of water in lakes or streams might bring refreshment to the eye. The public seats should be in groups, in well-lighted parts of the thoroughfares; the drinking fountains and troughs should be artistically designed and pleasant to look upon; outdoor annexes to the restaurants should be encouraged; and every effort should be made to beautify the streets—not monotonously, but with taste and variety, and above all to preserve the natural beauties of any space or garden which may be secured for the people.

What may be termed the *modern open-space movement* started before the close of the first half of the nineteenth century. The late Sir Edwin Chadwick, that great pioneer of sanitary reform, made a report in 1842 on the "Effect of Public Walks and Gardens on the Health and Morals of the Lower Classes," and he then used the phrase "open spaces." He also advocated the preservation as public land of the burial-grounds in towns when they should be disused. It was greatly due to his careful investigations and reports that most of these graveyards were closed in 1853 and the succeeding years, although another twenty-two years elapsed before any of them were converted into public gardens. Now, in London alone, there are over one hundred open to the public, nearly all being attractively laid out. Some of the square gardens have also been thrown open, notably those belonging to the Duke of Westminster (owing to the wisdom and generosity of the late Duke) and those on the estate of the Marquis of Northampton; and they now number, in London, twenty-seven.

I need hardly dwell on the very great success that has attended the work of the Commons Preservation Society, the Metropolitan Public Gardens Association, and the Open Spaces branch of the Kyrle Society. These agencies have, by their labours and their example, stirred up such public authorities as H.M. Office of Works, the London County Council, the Metropolitan vestries, and the provincial county councils and municipal bodies, until it is now possible to say that the desire to acquire open spaces or recreation grounds is universal, especially in the towns and their suburbs. It is still a little difficult for village communities to understand their need of securing definite playing-fields or public gardens when there is no green or common for recreation; but the idea has taken root in the towns, and will in time extend to the villages. Full powers are now given to these public bodies, and to trustees of private estates, to give, to acquire, to lay out, or to maintain open spaces, and information on any point connected with this subject will be gladly supplied by the Secretary of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W. And here I may add that organisations such as this one, which, during the past seventeen and a half years, has carried through upwards of four hundred successful undertakings, are much needed in the provinces. A few of the larger towns have their open-space societies, but in most of them there is no voluntary effort. Many officers of municipal bodies are strangely ignorant of the powers these bodies possess by law, and are glad of information from those who can supply it. Again, it is often possible for a voluntary body to bring some particular case to the notice of the local authority. It is heard of privately, and the society can carry out preliminary transactions of a private nature and save an open space which might otherwise be lost. The members of a public body, who have a score of other matters to see to, cannot be always on the watch for opportunities of securing open spaces, of preventing illegal encroachments, or of beautifying the streets. It is the sole business of an open-space society to do so; and such a society, working in a friendly way with the landowners of the neighbourhood and the members of the town or district council, can do an immense amount of useful work with but little expenditure.

There is much room for improvement in the way we build our towns and allow our suburbs to stretch out from them, ruthlessly swallowing up the rural surroundings and picturesque estates. But if the public mind is educated to the idea of preserving what is beautiful and of cultivating what is wholesome, if landowners will only realise that the value of building land rises in proportion to the amount of timbered open space adjoining it, if people will understand that the more recreation grounds there are the quieter and less crowded each one will be, I feel sure that the architects of the future will so arrange their buildings as to preserve trees instead of destroying them, and that the cities of the future will no longer be vast accumulations of monotonous rows of houses, but will be interspersed with smiling gardens and healthy playgrounds, and surrounded by parks and woods and playing-fields.

III. STREETS AND BRIDGES.

CONSIDERED IN CONNECTION WITH OUR *UN-IDEAL* CITY.

By W. D. Caröe, M.A., F.S.A.

THE very limited time at our disposal for the discussion of two very large subjects tempts me to the method of a recent manifesto by a notable politician in retirement, whereby the soul of suggestive brevity seems to lie in the promulgation of abstruse queries, answerable by each man for himself. Thus—in regard to my first subject :

Shall our streets be straight or curved ?

Shall we adopt formal architecture, or the picturesque, or is indeed Palladian the only possible ?

Do we approve of Hausmannizing ancient cities ?

Are boulevards beautiful and entirely conducive to the dignified display of architecture ?

Is the dignity of our streets to be measured only by their width, or the height of the buildings ?

How can we prevent the finest building sites passing into the hands of the architect speculator, whose productions are too often a menace to the continued sanity of those who care, and sometimes it seems also of those who are responsible for their stability ?

How far shall street architecture or our public monuments be controlled, as in Paris, by a central authority, and how shall that authority be constituted ?

How can we instil into County Councils and Corporations dealing with vast architectural problems, an intelligent appreciation of the accurate procedure which will ensure certainly successful results without doing indignity to our art or our honourable profession ?

All these and many more springs of useful inquiry I commend to each one of you, believing that Lord Rosebery's method is perhaps more useful to us to-day than that of Socrates, and that individual taste and openings for a varying treatment under varying circumstances will help us to more fertile discussion as well as to more fertile result than any suggestions I might be able to lay before you within those limits of your time which I am permitted to occupy.

Intertwined with—indeed, comprehending—all these queries is the one, "How can we interest and instruct the public in architectural scholarship ?" This Mr. Reginald Blomfield will deal with to-morrow, but it suggests to me to declare to you my devout belief that the finest street is not the widest street, and not necessarily even the airiest street, or the one best adapted to traffic, but first the one which has the most beautiful buildings beautifully placed, and that every step taken in pursuit of our glorious ideals of light, air, safety, and convenience, which has even in attaining these turned us away from this more glorious hope and more desirable goal of beauty, is a step lost and an opportunity wasted. In which connection I will make my only reference to the archæology of this wide subject, and bid you compare La Rue de Fèves, at Lisieux, with our own airified and widespreading Whitechapel.

The chapter of lost opportunities in our streets is indeed a long one. So often might some beauty in small as well as large things have accompanied usefulness, and we may range in our quest from the Tate Gallery to the cabman's shelter, from the cast-iron trimmings of the Tower Bridge to the cast-iron tunic of the London policeman. Most true it is that all the manifold and pressing necessities of modern city life in our streets combine to show us what we are in our appreciation of a city's dignity: the monuments, the advertisements, the open spaces, the trams, the omnibuses, the lamps and lamp-posts—aye! even the post-boxes and the peelers, to say nothing of the telegraph and tram wires. Who shall say that we have educated our appreciations in these matters? or that they have not a large bearing upon our external city life, as we would wish to see and let others see it? To take an instance. The lamp-posts of formidable design cannot by night destroy the decorative chain which seems to thread together through the maze of London streets; but what might those standards have done to enhance it by day had they been produced from a design of graceful simplicity? There seems an opening for better things in the recent Act obtained by the City, conferring the power to place lamps and wires upon house fronts. But how can any self-respecting householder (save him who holds a "public") welcome upon his house front a lamp designed in the same spirit (to give three examples) as the new arc-light standards of the vestry of St. Martin's, the drain ventilators which tower in unsupported hideousness along the Chelsea Embankment and elsewhere, or those bloated posts, whose nightly office it is to cast lurid gleams upon our most admirable Whitehall Charles I., designed as these are to dwarf and disfigure the proportions of pedestal and statue? To the official mind every statue seems in need of these overpowering torch-bearers, and with Charles I. and Lord Strathnairn thus officially glorified, we may expect to behold the Duke of York and Lord Nelson each with his quota of proportionately prodigious satellites, lest perchance we may overlook some shade of our heroes' sky-seeking glory when we stand to study these things upon starless nights or in November gloom.

Further, let me instance the lack of imagination we display in the laying out of open spaces, often cleared at great cost. Are asphalte and latrines either satisfactory or picturesque when they appear as the exclusive features, perhaps eked out with a £5 penalty seat? I am not claiming much for that profession of which I am proud to be a humble member, when I say that there are scores of able designers within it who could show how such things might be better done if only they were given a chance.

And what of the *Posters*—those aching sores—the poor man's picture gallery?—so claimed by his false friends and tasteless toadies. This is a matter upon which I must refer you to Mr. Richardson Evans, the kingpost of that admirable society called "Scapa" (The Society for Checking the Abuses of Public Advertising), of which I doubt not every person in this room is (or ought to be) an active member. Mr. Evans has most lucidly illuminated this question from time to time in the public press and elsewhere. But in brief, let us clear our minds, and cease canting about the poor man's pictures and the rich manufacturer's glorious liberty of puffing (at our expense) his nostrums. Shall we not rather assure ourselves that the wanton and vulgar disfigurement of our streets can only increase the vulgarity of those who are so constituted as to appreciate such things, and let us vote at least that, if they must be, the wealthy puffer shall be taxed highly for the infliction of his puffs. In our Ideal City, where all our street architecture will be beautiful, will we admit such imposition unheeded? In proportion as we take no pains to regulate the monstrous vulgarity of our hoardings, do we confess our lack of care, of pride, and of instinct for civic dignity and progress.

It would be inappropriate to deal with this subject of streets without special reference to the great new thoroughfare and the opening out of the Strand by the London County Council, the largest enterprise of its kind recently attempted, and one which may be fruitful of much that we desire. Here we may perhaps turn our backs for a while upon Lord Rosebery's witful method in at least formulating hopes for the final direction these new opportunities may take.

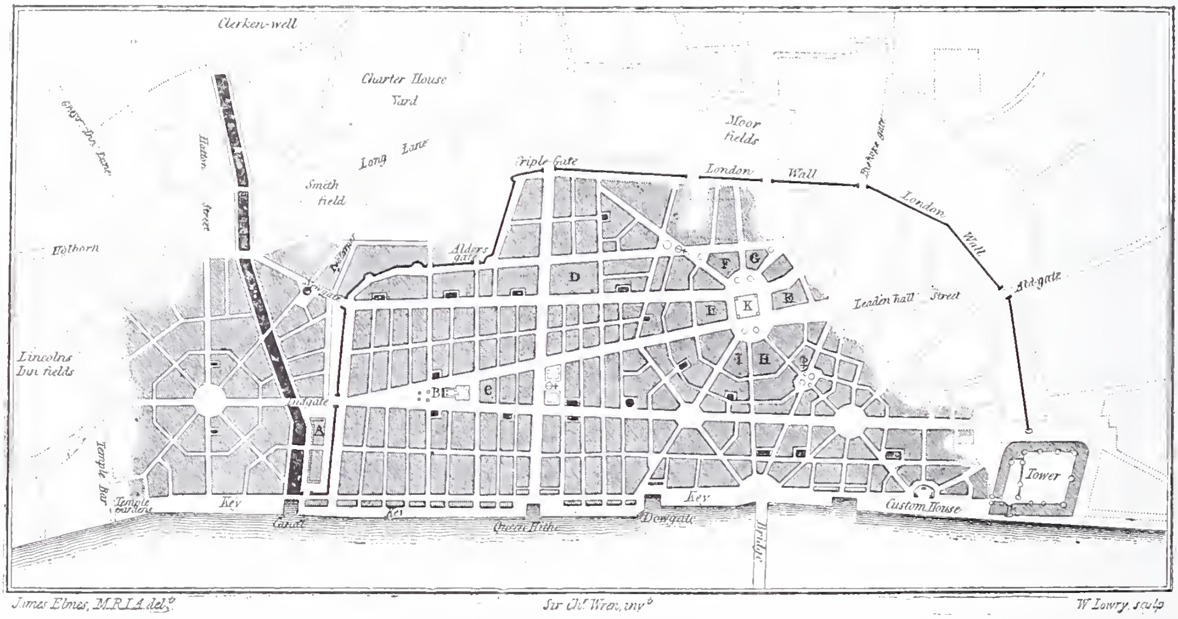
The question of straight streets or curved arises when the plan concerns new cuttings to be made, not the following or widening of old thoroughfares, formed as they mostly are upon the curved lines of once wandering country lanes or dykes.

Now the cutting of a straight street through a district already irregularly streeted at once lands us in the difficulty of all kinds of awkward and canted corners. Nothing can be more unhappy than the sudden ending of a large building in a sharp acute angle. Instances are numerous showing how this important point has been neglected through a lack of architectural instinct in the initial laying down of new streets—in many instances where it is clear that a very slight change of plan might have brought about results as much more desirable from a practical as they would certainly have been from an architectural point of view. I would make an incidental point upon this head—that however experienced in practical considerations may be the permanent official adviser to the Local Authority, yet an architect of repute and sound judgment should be associated with him in the conception of new streets. I would desire to insist that a graceful sweep, whereby awkward corners and angles are avoided, is better than the sacrifice of everything, even in the main thoroughfare, to mere straightness. I would further bring forward the simple suggestion of sweeping old side streets into the new main one in such a manner that graceful junctions are secured, which seems indeed an elementary expedient, but not one on that account the more observed or the less important.

I personally concur unhesitatingly in the desire expressed by the London County Council for a monumental treatment in dealing with the Strand island and its approaches, and would gladly see such treatment continued as far as Holborn. But a monumental treatment need not mean the continuation of one uniform design throughout the whole length. Might not each block between the intersecting side streets be treated separately as a whole, it being essential in this case (as it is indeed in the whole matter) that the exterior, at any rate, of each such block should be under the control of one competent architect? Thus we might secure a result at once monumental, varied, and interesting, and not of a more than Parisian monotony. To some extent a similar dealing with broad frontages was adopted by the late Duke of Westminster in Mayfair, and but for the fussy influence of the terra-cotta craze, which happened to come at an unfortunate period in the development of the scheme, the work done might have been even more successful than it is. In their scheme, however finally attained, the London County Council must bear in mind rigidly to control the future alteration of façades and roofs, as well as their erection, or we may get a repetition of Regent Street, where excellent intentions, also upon the lines I have indicated, have led to disastrous results, in the hands of unsympathetic or ill-trained modern maulers and re-designers.

I must not in this city of London conclude this part of my paper without brief reference to that most brilliant example of skill in the laying out of a city as proposed by Sir Christopher Wren for the rebuilding of London after the Great Fire of 1666. This is deft indeed in the avoidance of those errors to which I have referred. The introduction of polygonal figures concentrating upon important points is so cleverly conceived that I have had the plan reproduced and appended, so that those not already intimate with it may study it for themselves at leisure. It forms a more complete Paper upon the subject than any I could devise to lay before you, and shows how in skilful hands ancient sites, boundaries, gateways, and streets may all be brought into order and made to contribute to an ideal whole.

There is no subject which excites my architectural instincts, pleasures, or regrets more than the contemplation of a bridge, be it of stone, wood, or iron. There exists what I venture to call a practical poetry about such a structure, nobly conceived, appealing to all those subtle senses set in motion by architectural appreciation. And it is not to be gainsaid that every age up to our own which has included bridge-building among its arts and sciences has unequivocally recognised this fact. I recall to you in support of this statement the numerous examples, from the Roman era, onwards through Mediævalism, which loved to hallow the bridge by the chapel, down even to our own London Bridge. And while it is also true that the inspiration which has ever pervaded bridge-building has not left untouched some of our earlier engineers—among the honourable roll of whom I would name Rennie of London Bridge, Telford of Menai Bridge, Brunel of his Cornish trestles, Adams of that exquisite Eskutér Bridge at Buda-Pesth—yet it may not be denied that with the change from the direction of the architect to that of the engineer has come that lack of appreciation of beauty and fitness, resulting in those hideous bridges which disfigure our roads, our rivers, and our railways.



PLAN FOR REBUILDING THE CITY OF LONDON ACCORDING TO THE DESIGN PROPOSED BY SIR CHRISTOPHER WREN, SHOWING THE SITUATION OF THE PRINCIPAL STREETS AND PUBLIC BUILDINGS.

▬ Churches. ♀ Markets. A, Wood Market. B, St. Paul's. C, Doctors' Commons. D, Guildhall. EE, Goldsmiths. F, Post Office. G, Excise Office. H, Mint. I, Insurance. K, Exchange.

Not for one moment do I depreciate the vast benefits to the human race conferred upon it by modern engineering skill. Had they only been as artistically successful in constructing their bridges as English engineers have been in the outward forms of their best locomotives we should have no complaint, but only admiration for all their work. But the problem was not the same. Quite absent from the locomotive, into the engineering problems of the bridge enters the element of architectural scholarship; and this the engineers have, with a few noble exceptions, made no attempt to master. When the importance of an architectural treatment has been recognised it seems generally to have been relegated to the office sweeper, who has swept up the torn pages of mutilated text-books or manufacturers' catalogues and failed to consign them to the waste-paper basket. Albert Bridge, Battersea, Blackfriars, Charing Cross, Cannon Street, Chelsea, are specially our A B C of how not to build bridges; and Vauxhall brings us nearly to the other end of an alphabet which terminates in Westminster. But it is easier to reckon the other way, when we find we have only two bridges out of seventeen within the Metropolitan area which are worthy to be named among the monuments of London.

I wish in these few remarks specially to insist upon the essentially monumental character of a great bridge; and I would urge upon our Members of Parliament, who grant bridge-building powers to railway companies, and upon our County Councillors, to excite their sluggish imaginings and rise to the level of recognising at once and for all time that a bridge across the Thames is upon the same plane of monumental and architectural importance as St. Paul's itself, and demands the same developed architectural power to design or to embellish it. As regards the railway bridges, admitting fully their necessity, there is no excuse. In laying down a railway through a city the cheapest thing is to bridge the river. It does not compare with the buying up of land and claims, coupled with land construction. Yet the public has to pay in outraged sensibility and higher rates, all because of the imperturbable callousness of our Parliamentary representatives. Even now our peers have just allowed a Bill to pass their honourable House, whereby that Charing Cross monstrosity is to spread itself into Northumberland Avenue. No safeguard whatever is given to the public—not even advantage taken of the lever secured by a previous Act, which, in any widening, compelled the Company to purchase the block of houses facing the Strand.

But we must admit that a railway company is not bound, in these ultra-commercial days, to hold anything sacred, save dividend; but is that an excuse for the direct representatives of our interests, who control the revenues we provide by our contributions to civic progress and order?

Why, I ask, are the County Council recognising the architectural importance of the Strand improvement and denying the architectural importance of Vauxhall, and, I suppose, Lambeth Bridge to follow? If the architecture in the Strand will cost one million, that at Vauxhall will cost at least half! Why should they assign the one to the united efforts of eight selected architects, and be content with the other as a mere piece of copybook design—in which, in the words of our premier novelist, "that rank which forms, as it were, its highest grace and ornament is mingled and confused with the viler parts of architecture"?

In no sense do I depreciate the importance of the engineer's control of all the bridge-building problems which depend upon engineering science; and if the engineer can prove himself the peer in architectural skill of those others whom I have named I am happy indeed to leave the whole work in his hands. But, as the matter now stands, and with the elaborated design before us, the action of the London County Council is wholly inexplicable and opposed to the public interest. It is far from conducive to their being trusted as the central authority in whose hands the improvement of London and her monumental architecture may be left indiscriminately or ungrudgingly.

It would be impossible not to refer, in this connection, to the new Pont Alexandre III. at Paris, in which the architects, sculptors, and engineers have collaborated so ably together. The conditions laid down were such that a bridge of steel construction was inevitable, and MM. Résac and Alby had resort to a single span of cast steel ribs, almost going back, constructively, to our Southwark model. To my own idea the architects and sculptors have been more successful in their share of the work than the engineers, because the latter have not been fully conscious of the limits of their material in appropriate decorative use. The total result, however, is such as to make us jealous of this bridge as the outcome of one of those things they manage better in France—merely because they recognise the simple logic of facts and the teaching of experience and history.

I hope for no more from these few remarks than that they will suffice to stimulate discussion upon subjects which cannot fail to secure your interest. Whether you are architects or otherwise, dwellers in cities or enjoying country life and pursuits, I need not remind you how in these days of strained effort, vulgarity, hydra-headed, thrusts itself oppressively into the daily life of all of us, and none of the arts suffers from the unwelcome intrusion so much as architecture. And our St. Michael, our hope in wrestling with the monster, must ever be an accurate and refined scholarship, which—be we mere plodders, whose best aspiration is but for a laboured success, or gifted with the imagination and resource of genius—will guide us always down a sure path, and the spread of whose wings will bring back to us beauty in our streets and bridges and all that appertains to our cities. Throughout all history the growth of civic dignity, monumentally and artistically expressed—in other words, the arts of peace—have ever been held indicative of a nation's position, power, and development in civilisation; and, if not always of rectitude in the past, let this be our added incentive in a new century of Christian effort.

IV. PUBLIC MONUMENTS. By T. Stirling Lee.

Opening.

"The common problem—yours, mine, everyone's—
Is, not to fancy what were fair in Life
Provided it could be; but finding first
What may be, then find how to make it fair
Unto our means—a very different thing.
No abstract, intellectual plan of Life,
Quite irrespective of Life's plainest law;
But one a man, who is man and nothing more,
May lead: Idealise away:
You're welcome; nay, you're wise."

Browning.

Subject.

A FAIR City: is this building castles in the air? No; but from high thoughts and our imaginations we build foundations for its possibilities: foundations have been laid for all time to build upon; materials and all things necessary are to man's hands; then why idealise, but realise the actual.

The Natural.

It is natural for some to build, some to carve, some to paint, some to sing, to write and speak in words. We are thinking of our builders of cities; to build, then, is to some natural; it is the sport and pastime of many childhood hours. How many days he satisfies himself in building with his toys—his castles made with cards, always striving to go one better than the Tower of Babel, higher and higher; then the outburst of joy produced by the downfall, the noise of its destruction! This natural gift in the boy, we see in the man, and find in nations; joy of some to build, the greatest satisfaction of some to pull down, to make a noise.

In nations as in man we find the natural, the ideal, and then the material, and from these periods we have the height to which its civilisation has reached and the depths to which it has fallen, monuments for all future ages, of a nation's infancy, maturity, decay.

The Growth.

The early settler by the riverside, or near the wood, first builds his hut; he names it after its natural surroundings, "the hut by the river," or "by the wood"; he works, and by his toil produces the fruits of the earth, it becomes his garden of riches; then the thinker, who looks up, "man the uplooking animal," he sees the sun, the moon, the stars, the seasons; from his thoughts he is led to idealise, to worship, and takes the natural to symbolise his highest aspirations, object for his worship, and strikes out to more perfect manhood, to build a home wherein may dwell his God; he builds his temples, his palaces, his monuments, which clothe his thoughts and express all his highest ideals, and from these grow the maturity of a race. With this evolution of the mind of man comes also the evolution of his morals, which he calls virtues, the causes of joy and happiness, the causes of evil and misery.

We can trace the history of nations, the causes of prosperity and the causes of decay. And it is natural for man from things seen to think and use his mind, and let the light of his soul dwell on the beautiful that it may live: the natural magnified to its ultimate to illustrate his ideas of the supernatural: the Egyptian his sun-god, light and life; the Greek with his Ζεύς (pure heaven) and his goddess Wisdom; the Florentine the Mother and Child, the ideal Maternity, and his love of labour—for was not his symbol of harmony of life the sound of the smith beating into instruments of music the crude metal of the earth? Take these five subjects: Light, Life, Wisdom, Maternity, Labour, and round them you can build all the highest thoughts of man and the religions of nations, which have been the subjects and themes for the monuments of all the great cities of the world. Take each subject to its ultimate, and you have the perfect actual—subjects fitted for the sculptor's art and worthy to be placed in your Ideal City.

Material.

But with power comes decay—the worship of the man, much self-glorification. The material man, not man's mind or soul, do we measure him by; but his material external is portrayed, which produces destruction to the great ideal. We then produce the bulb, no longer the flower that has made this city fair.

The Sculptor.

So we workers in clay, wood, stone, and metals are but the children of your city. We are, at the hand of the builder, to write in streets the great thoughts of your philosophers, the dreams of your poets, the great victories of your warriors, the ever-spreading influence of civilisation, its truth, its justice, and its liberties, that in figure these ideals may live in the crowded streets of your city. But to hand down the mere posthumous portrait of the man is to give to the world the shell without the kernel—not the ideal in which the sculptor's soul may live and breathe, but the dead, mechanical production of a dead thing.

Technic of the Sculptor.

Has the sculptor any ideal for our technical side? Does he reach out to any ultimate in his means of expression? We see he has his ideal subject; has he ideal rules for his practical work? He knows that life is governed by simple natural laws; so just as simply must this child of nature express himself, and must govern every detail of his perfect work. It depends on the man, his mental vision. You may show him examples of the highest realisation of men's mind and hands, but he cannot reach them if his power of thought is not strong enough to produce the same conception. Take the pupil and the worker beside you: you can so transmit your thoughts and the way in which you see things that he can see just what you point out; but immediately he is left alone he falls back to his own range of vision.

Laws of Sculpture.

What are, then, these simple laws that govern the ultimate of the sculptor's expression? They are the combination in a work of three characteristics of the arts—architecture, sculpture, and painting. The dignity and the monumental of the architect, the simplicity of severity of line and form of the sculptor, the atmosphere of light and shade of the painter—all these we find in the great works realised by man in his maturity, and prove what is always said by great artists, "that there is but one art, but different means of expression."

Conclusion.

For subjects you take great abstract truths, for treatment you take the natural object and clothe it with its attributes to personify the unity of atoms into a grand whole; and by the eyes we see and the power we feel will be the result and nearness attained to our great ideal.

Carlyle.

The situation that has not its duty, its ideal, was never yet occupied by man. Yes, here in this miserable, despicable actual wherein thou even now standest, here or nowhere is thy ideal: Work it out therefrom. The ideal is in thyself; the impediment too is in thyself.

DISCUSSION.

Mr. E. A. Gruning, *Vice-President R.I.B.A.*, in the Chair.

Mr. H. E. Milner, F.L.S., Assoc.M.Inst.C.E. [*H.A.*], who had been asked to favour the Congress with an expression of his views on the subject during the discussion, read the following short paper:—

It is difficult to settle the point of attainment to be aimed at in the ideal city. There are certain conditions under which a segregation of people can live. A city cannot exist embracing only palaces and promenades, without workers entailing production and distribution, the gathering and accumulation of wealth, and ways of communication. In the generality of cases a city has grown from traders living together for convenience of traffic and for defence, and the nature of the traffic has been influenced by the natural features of the locality, and has grown by the fact of the place being suitable for shipping, for manufacturing, and for a trade centre. Few cities (and none has reached importance) have been built for residential purposes with trade as a supplemental consideration. One might more readily look for the ideal there, but the result has not been satisfactory. Washington is perhaps such an instance; but the feeling of monotony, in spite of the grandeur of some of the buildings, is very trying. It seems, then, that in a city one must look for an accumulation of inhabitants of different degrees, requiring special adaptation to their mode of life, and consequently a conglomeration. I think, then, we can only lay down some broad rules for adoption.

A city might be advantageously placed on a plateau about 300 feet above sea-level, slightly sloping to the south-east, with a large wood four miles from its centre on the north-east side, on a light clay passing lower into rock. It might have at twenty miles' distance northward high hills preserved and forming a water source developing into a river, which would fall, producing power, to its junction with a navigable river five miles from the centre of the town. This centre of the town might be a park a mile in diameter, intersected by main roads and planted. It could be surrounded by Government buildings, churches, galleries, theatres, colleges, and behind these an inner elevated circular railway communicating with lines running north, south, east, and west, and with another circular railway two miles beyond.

Broad roads should radiate from the centre, intersecting public squares or gardens and planted, and I would not recommend planting trees as avenues by sides of roads, as their uneven growth would cause waste of valuable land and prove eventually unhealthy and incommodious unless planted in wide, unflagged spaces with roads on each side.

There should be universal electric power supplied, and no smoke. All the supply of power and water and drainage, under one control, should be in subterranean passages, and in the busy parts special sunk roads for heavy traffic with overbridges might be introduced. Warehouses and docks with the larger manufactories would be next the embanked river, and high enclosing boundary walls, especially next dwelling-houses, disallowed.

The tendency to build dwelling-houses to the westward has been universal, but with the absence of smoke this need not longer prevail, and the rich and poor quarters might be intermingled, though there will never be the equality which we may expect only in the realisation of the description of the perfect city pictured in the vision of St. John.

In an attempt to remodel an existing city I am of opinion that individual building must be left to those desiring to build and occupy their houses, for as taste and knowledge increase, so a better result will ensue; that manufacturers' premises must depend on the requirements of trade, but that a central authority should have control over power, water, and drainage, and have the right—which should be freely used—to dispossess and compensate for main lines of communication and the setting-aside of planting areas under a definite scheme.

Mr. Owen Fleming [*A.*], in proposing a vote of thanks to the authors of the Papers, said he could not help comparing, when the various ideals were sketched out, the actual with the ideal, and he almost despaired of their ever bringing the two into any sort of relation. When speaking of the city, he considered they were speaking of it as a whole, and they must not confine themselves to a city beginning at the Royal Exchange and ending at Chelsea. It existed on a wider scale, and to apply the term "ideal city" to districts such as Hoxton and Walworth, Bow, St. George's-in-the-East, and St. Luke's was as bitter a mockery as one could conceive. Referring to the Institute, he remarked that they had a great responsibility in the architectural development of the city, and this fact had been admitted by the London County Council and its committees, with excellent results so far as they could see. He gave three instances in which the Institute had formulated a definite line of policy, and remarked that the importance of that line of policy was very considerable, because if the Institute continuously and consistently impressed its view upon the Government and Municipal Councils who were entrusted with the carrying out of improvements at the right time, he considered they would gain a great deal more than they had in the past. In the case of the development of Whitehall the Institute was represented at the Government Committee, and a great many of the suggestions they made were carried out. It was entirely due to their action that the Westminster end improvement of Whitehall had been carried out in such an admirable way. The other end had not yet been done, and he ventured to suggest that the widening of the eastern end should receive careful consideration. The Mall would shortly be opened up, and other improvements must necessarily take place at that end. With regard to Mr. Ricardo's observations and suggestions for the development of Trafalgar Square, if the Institute could lay down a plan showing how the square could be laid out, reducing the size of the fountains and giving more greenery and trees, it would not be very difficult to carry out such a scheme. The Institute was also very much interested in the Holborn and Strand improvement. The Institute was the author of the approved scheme, and London was to be congratulated on the broad view which the Institute had shown in the detailed development of this great proposal. This scheme would form an important link in the chain of communication between the north and the south. It also had an important negative result, inasmuch as St. Mary's in the Strand was saved for all time; and as the southward traffic would probably be diverted down the eastern arm, they would very likely have to erect a bridge between Waterloo and Blackfriars, connecting with the Elephant and Castle. If that was carried out, the widening of Waterloo Bridge, which most architects dreaded, would be put on one side. Then with regard to the most difficult question of Vauxhall Bridge. It was certainly in a very unfortunate position, and Mr. Caröe was very severe on the County Council. It must be borne in mind that the Council in this matter were confronted not only with the Institute of Architects, but with the Institution of Civil Engineers, and the latter might not take the same view on the question of Vauxhill Bridge as did the former. Was it quite fair of this Institute to bring pressure to bear upon the Council in this way? Surely their engineering colleagues would not take the view that they were supreme in matters of architecture, and he would suggest that diplomacy should be used in this matter by the Institute sending ambassadors to the Institution of Civil Engineers in order that some agreement might be arrived at between the two professions. He had strong reason to believe that the Council would welcome such an agreement very heartily. As the matter at present stood, the Council must either take the side of architects or the side of the engineers.

The Chairman: In that case I would advise the Council to take the advice of the Institute of Architects.

Mr. **Fleming**, continuing, said he was only endeavouring as far as he could to give the view which he understood prevailed at Spring Gardens. He was rather sorry to refer to the fact that the energy of the Art Standing Committee seemed to be lessening. He did not see any report from them in the last publication of the Institute annual reports, and he regretted this, because they could exercise a considerable influence on public authorities if they took up questions at an early stage. There was one other question which he would like to refer to, and one which none of the speakers mentioned, but which appealed very closely to London architects. He referred to the housing of the working classes, which was becoming one of the great questions of the day. It had been discussed in Parliament, but without any very great conclusions being arrived at, and, so far as he could see, it would have to be dealt with in a very broad way. It was suggested to him the other day that architects had nothing to do with the housing question; but they certainly had; and if the Institute would appoint a committee to study the great problem he felt sure London would be benefited.

Mr. **Arthur Cates** [*F.*] said that, however agreeable it was to contemplate what might be, and even what ought to be, he did not think they would realise their ideals in this generation. With regard to the controversy respecting the designs of Vauxhall Bridge, he was surprised to hear Mr. Fleming say that there had been some conflict between the Institute and the Institution of Civil Engineers. He was not aware of any, or that the Institution of Civil Engineers had expressed any opinion upon the subject. If they had, it would have been regarding the engineering part of the bridge, and not its outward appearance and details. The Royal Institute of British Architects made representations to the London Council with regard to the architectural design and details, which were of vital importance, and it was a matter of very great regret, in the interest of the public, the Council, and all concerned, that more consideration had not been given to those representations than appeared to have been given. It would be a great misfortune if in the expenditure of so vast a sum of money as was proposed upon this bridge a public monument should be erected the architectural details of which would be open to criticism and would be unworthy of this great Metropolis. His acquaintance with the circumstances did not enable him to suggest that this would be the case with Vauxhall Bridge; but according to the criticism they had heard that evening it might be possible that its success would not be so great as they all desired. If any doubt existed, as seemed to be the case, it was certainly an obligation on the London Council to put aside all personal questions, and obtain the best advice on these details, so as to prevent the possibility of another unsightly feature being added to those which already exist in this Metropolis. There was one point in the Earl of Meath's Paper which deserved very careful consideration. He said: "There is much room for improvement in the way we build our towns and allow our suburbs to stretch out from them, ruthlessly swallowing up the rural surroundings and picturesque estates." Then he went on with a little idealising, but his lordship might have emphasised his appeal very forcibly. We had allowed for many years past all our rural surroundings to be swept away in our suburbs, and picturesque estates to be ruthlessly swallowed up, without exercising any control whatever upon the manner in which this land was laid out for the profit of the greedy speculator. If we went a short distance from some towns we found small buildings erected close up to the edge of narrow roads, and these roads, as the town increased, developed into insanitary streets, especially when the smaller buildings were replaced by larger ones; and this led to vast expenditure of money in widening thoroughfares, which might have been saved if the land had been under municipal control, so that the frontages could have been set back and the streets widened before the buildings were erected. All round London estates had been laid out, or developed, to create ground-rents. Within the London district the actual control which was exercised over these estates was simply with regard to the minimum width of the road and the height of the buildings. There was no control whatever as to the direction of the streets, except the provision in the recent Building Act, which required that every new street should join another and be a direct thoroughfare. The speculator was allowed to lay out an estate and put as many houses upon it as he could, so as to get as many ground-rents as possible, and then to walk off with his profit and to say what a good stroke of business he had done. Surely, considering the great gain to the landlord by converting farm land into building land, it would not be unreasonable to place him under some obligation to provide some open space or recreation ground, and to improve the thoroughfares for the benefit of the population by the creation of which he made his fortune. This might be done by that control which was exercised in many Continental cities. If such a control as he had indicated had been exercised thirty years ago, how different would the aspect of Greater London be to-day! The districts in the east and south referred to by Mr. Fleming would not have been nearly so crowded with small tenements without any convenience or places of recreation. If the land was laid out in a proper way, it would be to the advantage of the landowner. It might be considered that this was an attack upon the right of property or an attempt at confiscation. He would be the very last person to make such an attempt, but the landlord should be under such an obligation as he had suggested. And those who for their own great gain appropriated their lands for the habitations of the people should be compelled to provide on such lands adequate open spaces for the health and recreation of that population. As property had its rights, which should be treated with all respect, so it had no less its obligations; and as these had in the past been neglected and overlooked, so in the future they should be respected and enforced. They all heartily appreciated and were deeply indebted to the great landowners for what they had done. Without the wise control they had generally exercised in laying out their estates London would indeed have been a miserable city. To the great estates of the Crown, the Duke of Westminster, the Duke of Bedford, and many other great landowners, we are indebted for many of our open spaces, squares, and broad thoroughfares, which helped to make London, in some respects, agreeable. If this sort of thing could be enforced by general legislation upon all landlords—legislation placed in the hands of the London County Council—it would be a great advantage and benefit to the community.

Mr. Charles Hadfield [*F.*] said he quite agreed with the remarks made about towns being erected in anything but an ideal way in the past, but precisely the same sort of thing seemed to be going on at the present time. He was interested in what Mr. Cates had said with regard to municipal control. Mr. Cates had spoken from a sound, legislative, and conservative point of view, and he was very much in sympathy with his remarks. He considered that a great deal more ought to be done, and would be done in this direction. Sheffield, in the days of his boyhood, was surrounded by beautiful scenery, but it was rapidly being crowded out of existence by the system of putting as many buildings upon the ground as possible. In London there was comparatively little of the ideal. In his opinion more widely extended powers should be accorded to the authorities for dealing with the greedy commercial speculator. Unless something were done, we should have, sooner or later, cause for regret at our present apathy. He hoped the outcome of this important discussion would be to strengthen the hands of the municipalities in this direction.

Mr. E. S. Prior said they had to deal with the existing state of things, and Mr. Ricardo's suggestions were the most practical he had heard.

Mr. Ricardo, in replying to the discussion, said that in some degree the title "Ideal City" was for his Paper, a misnomer, for he had been dealing with what were possible reforms in an actual city—still they were such reforms as would be found in an ideal city. He had, he believed, kept them as low and as moderate as was consistent with practicability; for the problem was not how to treat an imaginary city, but how we could improve this city of ours. The first thing, however, was to obtain some general agreement as to the lines on which the schemes of reform should be advanced.

Mr. Caröe, who also replied, remarked that the Institute might certainly take into consideration the suggestion of Mr. Fleming. The County Council invited the Institute to give them ideas and suggestions, but they threw them on one side. If it were true, although hard to believe, that there was another society abetting the Council in their unfortunate procedure, he suggested that the Institute should be ready to put its feelings into its pockets, if necessary, and get into communication with the other institution. He did not care how it was done, but they ought to get a good Lambeth Bridge, if they could not get a good one at Vauxhall. He thought the Art Committee might act upon this suggestion, and go to that other institution and endeavour to arrive at some reasonable understanding with it. As had been insisted upon over and over again, all they wanted was to secure good architecture, and not to interfere with the engineering part of the work. There was no doubt that the Art Committee was very much disheartened by the manner in which the London County Council had dealt with their efforts in connection with Vauxhall Bridge, and he was afraid that their inaction of late had been due to the fact that the enormous amount of work which they had done for that important subject had had very little result, although at one time they expected a very great deal. Mr. Fleming referred to the housing of the working classes, and one reason probably that it was not mentioned in the various Papers that were read was that it was such an exceedingly difficult question. He desired to compliment the London County Council upon the new buildings for working classes which were being erected behind the Tate Gallery. They were a credit to London and to everyone connected with them. He hoped that there would be some outcome of this meeting, and that some definite steps would be taken to endeavour to check the swallowing-up of all the natural beauty which surrounded our great cities.

Mr. T. Stirling Lee, referring to the statement in the Earl of Meath's Paper that they found difficulty in getting fountains for parks in this country, observed that as a sculptor he knew of no such difficulty.

THE EDUCATION OF THE PUBLIC IN ARCHITECTURE.

By Reginald Blomfield, M.A.Oxon.

THE subject on which I have been invited to address you is one of such intricate difficulty, and so closely connected with wider questions, that any reflections I may offer you are only in the nature of prolegomena. That such a subject should be suggested for discussion at this Congress is significant, for it points to the fact, with which we architects are painfully familiar, that the public does want educating in architecture very badly; and, in saying this, no imputation is made against our individual clients. The mere fact that they come to us shows (at least we think so) very excellent good taste, and though this impression is not always maintained, and occasions have been known to arise in which the architect has had to admit his inability to cope with his client's tenacity as to plate-glass and other matters which vex the souls of the righteous, yet, on the whole, if properly handled, the client will usually follow his architect's lead. I shall, therefore, not attempt to deal with that most tempting subject—the intellectual relation of architect and client. What we are here concerned with is the general standard of intelligence in regard to architecture, the appreciation and misappreciation of the art as shown by current judgments, whether in the press or elsewhere; the evidence of taste displayed in actual buildings which reflect the average opinion of the times. The attitude of the man in the street is the problem with which we have to deal.

Now I fear there can be very little doubt that this attitude is far from satisfactory. I think that any competent observer who took note of the average of architecture in our great cities would be driven to the conclusion that the general level of taste and ability is low; further, he would find that some of the least admirable of these buildings were the most admired; and, lastly, if he compared his observations not only with the criticisms of the press but with individual opinion, he would find no common standard of appreciation, merely a mass of unrelated judgments, amounting to little more than individual expressions of like or dislike. He would, in short, find public opinion on architecture in a state very little removed from chaos. He would find that there is no intelligent body of opinion to which a competent architect can appeal as a matter of course, and that the public in the pursuit of architecture are like sheep without a shepherd. The uncertainty of taste shown in the treatment of public buildings of the last fifty years—shown I do not mean by the architects but by the authorities responsible—is conclusive evidence of the confusion of judgment which exists in the minds of our representative public men. First we had the Houses of Parliament, then the Foreign Office, then again the mediævalism of the Law Courts, and now (I think fortunately) the classic of the new Government buildings. It is evident that the authorities have had no sort of principle to guide them, and so the pendulum swings backwards and forwards. Unhappy officials, burdened with a responsibility of taste beyond their capacity, catch wildly at any passing fashion. Their chief idea seems to be to make a desperate bolt for cover; as for any consecutive tradition of taste, any steady development of ideas on architecture, the case seems as hopeless as ever.

It has been suggested that this state of affairs is inevitable, that it is the penalty we pay for the individualism of English genius; that though the French do in fact possess a traditional standard of taste and technique, they do not reach the excellence attained by Englishmen in isolated instances. There may be some truth in this view; we cannot have a school, and at the same time genius breaking out in all sorts of different directions at once. That we have no school in this sense is quite certain, for the Academy exists for other purposes; but it is to be doubted whether we nowadays produce genius in sufficient quantity to compensate for this absence of tradition; and at any rate this deficiency has not always been characteristic of English architecture. If, in the last century, Mr. Vardy or Mr. Ware, Mr. Wood of Bath or Mr. Flitcroft were called upon to design a building, they knew exactly what they had to do; they had no necessity to clear the ground by a long preliminary discussion as to the style to be adopted. Given the client's general instructions, everything followed as a matter of course. The workman had all his details at his fingers' ends, and the client would have been much surprised if he did not get a house up to the accepted standard of taste, and as like as two peas to the nine hundred and ninety-nine "seats of the nobility and gentry" then being erected in every part of England. Everything went as smoothly as clockwork. Such a state of affairs has, of course, its defects. It may lead to dulness, pedantry, and stupidity, yet architecture is so difficult an art that it is only by long-continued effort on familiar lines that any excellence may be attained; and without this state of things we should never have reached that complete accomplishment within prescribed limits, that clean precision of workmanship, which is so essentially characteristic of early eighteenth-century work in England.

But about a hundred and fifty years ago a new element appeared. The amateur and the virtuoso assumed an importance they had never previously enjoyed. Distinguished noblemen dabbled in design. Eminent men of letters amused themselves with architecture. In 1750 Horace Walpole writes, "I am going to build a little Gothic castle at Strawberry Hill," ominous announcement of the impending change; and in the next few years Walpole completed his ridiculous house, to the admiration of all his acquaintance. The worst of it was that, though perfectly absurd in his notions of architecture, Walpole was a man of brilliant literary ability and a reasonably good connoisseur. Moreover he thoroughly understood the temper of his class, and the consequence was that his ideas "caught on" and were accepted by a good many foolish people as a necessary part of polite taste. Accordingly—and this was where the mischief came in—they took their place in that Romantic movement in literature which was soon to overrun the whole of civilised Europe. It is rather curious to reflect that the eighteenth century, supposed to be *par excellence* the century of logic and lucidity of thought, should have seen the birth of that confusion of ideas as to the limits and relations of the different arts from which we suffer at the present moment. Joseph Spence, an intimate friend of Walpole, wrote an elaborate treatise to interpret plastic art in terms of poetry, and, though this book was pulverised by Lessing, Spence's fallacy, or rather the temper of mind which admits of it, is extant to this day. Walpole subordinated architecture to the elegant insincerity of his own literature; and the loss of all tradition in taste and standards of judgment was now only a question of time. Literary men had got the control, and it was not for mere architects to dislodge them. Moreover these very architects were too often their humble and obedient servants. Though Chambers, last of the Romans, made a determined stand for the old ways, Robert Adam devoted his extraordinary cleverness to the introduction of a new manner in design; the Dilettante Society had set the ball rolling, according to the latest lights of Stuart and Revett; and now there was this direct attempt being made to reproduce Gothic architecture, in obedience to a purely literary sentiment. It was hardly to be wondered at that the layman should lose his bearings. In the heat and turmoil of all this revivalism he might be pardoned for thinking that taste in architecture was a mere matter of pitch and toss.

Thus this century opened with three styles struggling for ascendency: the old traditional classic of Chambers and his school; the new Greek method, which was to be carried to such a high degree of excellence by Decimus Burton and later by Thompson of Glasgow; and, lastly, this revived Gothic. All architects of reputation followed one or other of the first two manners. The amateurs stuck to the Gothic, and the amateurs carried the day; but when one considers that the whole force of the Romantic movement was behind them the result is not surprising. So Wyatt, or Wyattville, or whatever he chose to call himself, started his career of architectural murder. Then Pugin followed, and threw himself into the cause with the enthusiasm of a very ill-regulated mind; and then came Ruskin, a man of narrow prejudice, but brilliant genius, whose eloquence won a sort of St. Martin's summer for the Gothic movement, prolonging its life quite two generations beyond its appointed time. I need not follow further the familiar history of the Gothic movement, but there is one important conclusion which I should venture to draw from this hasty survey, and it is this: All these men, from Horace Walpole to Ruskin, seem to me to have laboured under one very serious vice in their handling of architecture. If I may say so, they took their eye off the ball. Walpole treated architecture as a subordinate expression of literature. Pugin, and still more Ruskin, translated it into terms of ethics. The result has been that the idea of architecture as an art, with its own limits, its own technique, and its own ideals, has been forgotten, and one has almost to say lost. Volumes of eloquence as to the moral beauty of certain forms of architecture not only teach one nothing, but are actually misleading as to their artistic value. For an architect may be a very good man, and design and build with the utmost sincerity and moral enthusiasm, but his work may be exceedingly bad; witness that childish building the Museum at Oxford. And, on the other hand, it is very well known that artists of distinguished ability, whose work has had a singular fascination for intelligent judges, have been, to say the least of it, not immaculate. The critics have, in fact, set up an irrelevant standard; they have concentrated attention on matters which interest them, but which have no more to do with architecture than with boot-blacking; and we stumble here on some of the radical defects of serious English criticism. That strenuousness on which we pride ourselves has the result either of making our critics take their subject as a text for their own rhapsodies, or else it drives them out into action in the form of a directly moral application. They seem incapable of that cool and equable sympathy with every man on his own merits, that patient waiting on the development of genius which gives its extraordinary value to such criticism as that of Sainte-Beuve; for the function of a critic is to explain and interpret, not to substitute his own personality for that of his subject.

We have thus arrived at two results: first, that public opinion on architecture is practically non-existent—that is, its judgments tend to be irrelevant and to rest themselves on side issues; secondly, that this has resulted from the subordination of the art to the amateur, more particularly the literary amateur; and the question now arises how this state of things is to be dealt with.

In the first place it seems to me that a fresh philosophy of art is necessary, or rather a return to that clear understanding of the limits of the various arts on the lines laid down by Lessing one hundred and thirty years ago. We have to recover and drive home the truth that if the arts have some common ground, yet they differ essentially "*ὑλῇ καὶ τρόποις μιμήσεως*" in their subject-matter and technique, and what Lessing did for poetry, painting, and sculpture we have now to apply to architecture. We architects have to build up in the public mind the conception of architecture as an art, with its own methods of expression and its own problems. We have to make it clear that architecture is not sculpture and painting, but architecture; that, given the practical conditions to be complied with, the architect has to treat them *secundum artem*—that is, that his concern is with proportions, mass, and light and shade. It is easy to sneer at the old jargon, such as the relation of solids to voids, and the like, yet these remain a general description of the actual difficulties in design that our art has to attack; and our skill should show itself not in the skilful reproduction of other people's buildings, or somebody else's motives, but in this exact adjustment of proportions, in the subtle management of light and shade, of shadows and reflected lights. It is due to the causes which I have endeavoured to indicate above that this conception has been thrust on one side, even by architects themselves. There is, and has been for the last few years, a very favourite watchword among some of us, "Art is one," and under cover of this motto the crafts have manœuvred a skilful and insidious attack on architecture. The architect has been relegated to the position of the useful drudge who blows the organ while the craftsmen play on it. His function has been supposed to be that of providing an occasion for the arts of the sculptor, the painter, the metal-worker, the enameller, and all the others of the noble army of craftsmen. If the architect's architecture gets in the way it must get out of it, even to the destruction of the finest architecture in the kingdom; and in this way the architect is considered to establish his claim to be a member, though indeed but a poor relation, of the family of artists. As to this Shibboleth, of course all art is one, also it is not. It is one in the sense that, to the exercise of any art, some measure of imagination and practical invention is necessary, and again in the sense that any work of art is an expression of the human intelligence. In this sense the saying is true, but it is also a harmless platitude. If we try to get at the facts we find that all art is not one; that, on the contrary, each art has its separate province, divided from its neighbour by neutral ground which either may occasionally invade, or which they may fairly occupy in common; yet their separate limits ought to be strictly maintained in thought, and both in this and in many other instances the crying need is for clear ideas. It is to this groundwork of thought that I think we ought to direct our attention if we hope to educate the public. It is very desirable that the layman should know the history of the architecture of his own and other countries. His ideas will gather shape and colour from actual instances, and it is almost necessary that he should have some acquaintance with acknowledged masterpieces, in order to acquire some practical standard of judgment. Yet it is the use of this standard that constitutes the real difficulty. It is of very little use having a standard, and even a great mass of knowledge, if you have no idea how to apply it; in other words, it is of very little use to supply the public with facts and pattern books until the public mind is prepared to receive them—and it is here that the real difficulty of education begins.

There seem to me, generally speaking, to be three channels through which public opinion can be reached: (1) by direct school teaching; (2) by treatises; (3) by the work of architects themselves. In regard to school teaching a good deal more might, I think, be done in this direction than anyone seems to contemplate at present. In most of our important public schools there is an art museum of sorts, a drawing class, run on rather old-fashioned lines, and usually some intelligent master with a cultivated interest in the antique and a sentimental attachment to Early Italian art. Now, I am not in the least depreciating the work so done. It is good, as far as it goes, and is a very great advance on the neglect of any such teaching habitual thirty years ago. What is wanted is a more complete organisation of this teaching and a more comprehensive scope. Boys, those at any rate with reasonable powers of observation, are quick to pick up impressions, and there can be no doubt that they acquire some valuable elements of culture from the casual information that they are able to gather in this manner; yet I think I am correct in saying that the boys' attention is called to art, not from an artistic, but from a literary standpoint. Our public-school masters are, as a rule, very excellent educationalists; there are probably none better in matters of scholarship and literature, but they regard the arts from the point of view of the British public, rather as an elegant and perhaps superfluous accomplishment than as a serious expression of thought. Architecture in especial—I may say it in this company—from every point of view the most important of the arts, is hardly ever dealt with in our public schools. A boy gets some slight acquaintance with Greek and Italian sculpture from the casts in his museum, and learns the names at least of the great painters; he may also hear something about churches and buildings from the school antiquarian society, but of architecture never a word. What I think might be possible would be (1) to provide a well-selected set of architectural drawings of well-known buildings, and the simplest possible technical diagrams, such as should be easily intelligible to the schoolboy mind; (2) to give an occasional reading in architecture, dealing with its simplest points, and illustrated by models and clear drawings. The object of any such lecture should, of course, be merely introductory—that is to say, it should not attempt any elaborate disquisition on styles, or even on history, and should carefully avoid any attempt at technical instruction. What is wanted is such a handling of the subject as will call the boy's attention to architecture, and give him an interest which he can develop later if he has any aptitude that way. By this means the ground would be broken up for the more detailed courses of instruction, such as are provided by the Architectural Association, Liverpool and London Universities, King's College, and the like; and even if the study were carried no further it would leave an intelligent interest in the art, and have an educational value of its own. Some sort of architectural text-book for beginners is, in fact, badly wanted; but the necessity for extreme clearness and simplicity of treatment, in addition to a comprehensive grasp of the subject, makes the preparation of such a text-book a matter of very great difficulty; yet it ought to be possible to prepare such a work, and I commend the problem to our professors of architecture. Something has already been attempted in this way in the University Extension Lectures. I have no experience to offer on this subject, but it appears to me that the lecturer labours under two serious disadvantages. In the first place he has to address a mixed audience, mostly of an age at which learning is not so easy as it used to be; and secondly, he has to make his lecture popular and attractive, otherwise his class falls to pieces. Moreover, so far as I understand, every lecturer is free to follow his own devices, with the result that what one man builds up another pulls down. At every point, in fact, in our attempts at education in architecture we are brought up short by this want of a common standard, this loss of all established tradition.

The same difficulty meets us in the attempt to influence opinion by books and treatises. It was easy enough to lay down the law about architecture, when the Five Orders and their strict observance constituted the law and the prophets. In Wren's time there was no necessity to educate the public. Evelyn did all that was wanted when he translated Fréart's Parallels. But nowadays we have no law; and if we architects are not agreed among ourselves as to the principles on which we should appreciate each other's work it is inevitable that the public should be hopelessly at sea. Yet I believe that our differences of opinion are more superficial than serious, more the result of misunderstanding than any insuperable cleavage. Whatever our individual divergences of manner, a really fine piece of architecture is usually accepted as such by most of us, and the problem before us is to disentangle the common ground of judgment on which we undoubtedly act, and to define it in such a form as will be intelligible to the public and a guide to them in their own appreciations—a task again of the very greatest difficulty, and perhaps not the work of one generation, or of one man; yet I do not think that such a result will be indefinitely postponed. The consensus of competent judgment gains ground every year, and in time a method of criticism may be deduced from it, something far wider and more penetrating than the time-honoured system of the Orders.

Meanwhile, and at a lower level, something might be done. It has been suggested that a series of plain pattern books for builders, giving working drawings of quite simple designs for doorways, windows, and the like, would save us from the utter vulgarity of the great majority of modern buildings in this country. It is well known that on the greater number of such buildings no architect has been employed, but the public is not aware of this, and its vision (such as it is) is being constantly perverted by the worst possible models in front of it. This, at least, we might escape, and the builders of the last century did escape it, because they worked to an excellent set of accepted patterns. It would be a most useful and, I think, practicable task if a committee of architects of recognised competence could be formed to superintend the issue of some such series of pattern books. In the matter of building construction this has already been very well done in the South Kensington volumes, and it would not, I think, be difficult to supplement this on the side of design.

Lastly, we come to what is, after all, the most important means of educating the public in architecture, our own work. Not only does an architect have a unique opportunity of educating the individual in his relations with his client, but each fresh work should be the most convincing embodiment of his own ideas of architecture, of which the effect, like that of a stone cast into the water, must spread in ever-widening circles far outside the centre of its first attack. We must set our own house in order before we can sweep and garnish that of the public; and thus the education of the public passes into the more intimate question of the education of ourselves; and at this point I may fairly leave it.

Perhaps at this moment the two worst faults of our architecture are, first, the total absence of any sense of style, that kind of design which snatches up any sort of detail and tacks it on to any kind of building, and of which there is abundant illustration in most of our new streets. This method we are all agreed on condemning; but there is another and rarer fault, and the more dangerous because it is the vice of a virtue, and this is a certain preciosity, what Pliny calls *quædam artis libido*, which runs out into frantic experiments after something new and altogether original. This latter habit of mind turns its back on tradition, or thinks it does, and resolutely eschews beauty, in its wild attempt at strength. Both of these faults can only be attacked by a more thorough and intelligent education of the student, and by a clearer appreciation in our own minds of the province and ideal of architecture.

In the first sentence of this Paper I mentioned the extreme difficulty of this subject, and I have endeavoured to show that the state of public taste at present is due to deeply-seated causes, causes so difficult to reach that one might almost be tempted to despair of the future of architecture. Our best ground of hope is in the excellent work being done by individual architects, and in the agreement, rather than disagreement, of critical judgment which exists among ourselves. Such an agreement must, in the long run, influence public opinion. What we experts say in this generation will be matter of common knowledge and acceptance in the next. It should be our work, therefore, to clear the air of misconceptions, and to endeavour to build up again an æsthetic judgment, which shall be independent of styles and fashions, because it rests on the essential facts and conditions which lie at the root of all good work in architecture. We cannot ourselves expect much immediate result, yet perhaps our children's children may enter into possession of the promised land.

DISCUSSION.

Mr. J. M. Brydon, *Vice-President* R.I.B.A., in the Chair.

Professor Simpson, of Liverpool, said that the interesting Paper which Mr. Blomfield had read covered the ground so completely that little remained to be said. The few remarks he had to make would be confined entirely to the culminating point of Mr. Blomfield's Paper, at which he said that architects might leave the subject. In his (the speaker's) opinion the education of the public in architecture depended entirely upon the education of the architect. It was on the architecture of the day, the work which was being produced at the present time, and not on the work which has been produced in the past, that the education of the public in this matter must entirely depend. It was a well-known truism in education that the first thing was to interest people in order to educate them. It was quite true that people could to a certain extent be interested in architecture in the way Mr. Blomfield had suggested—in classes at school, in University Extension lectures, &c. But the interest aroused by such means was very likely to evaporate, or, if carried too far, would result in the raising of an absolutely false standard as to what constituted architecture, because that standard would be simply and purely an archæological one. Consequently he fell back on the line that the only way to educate the public was by interesting them, and the only way to attain a sustained interest was by the works of architecture around them, *i.e.* by the works which contributed to their comfort and convenience. It was, therefore, practically by the works of architects themselves that the public must be educated, and he was certain that his hearers would agree with him when he said that the architects must always lead, and the public always follow. They saw the bad effects of the opposite at the beginning of the century, when, at the time of the revivals, a part of the general public was educated in architectural matters in advance of the mass of practising architects. Exactly the same thing had happened within the last quarter of a century in what was commonly called the minor arts. Twenty-five years ago the revived interest in these arts led to rather curious results when the public began to take an interest in them. It was quite true that artists had emancipated themselves since, but the result at first had been to create a craving for the antique and to foster and encourage the art of lying in dealers in old furniture. The standard of the amateur, as a rule, was entirely a retrospective one. The general public went away, saw, admired, returned and desired to copy. But with the artist it was quite different; when he went away he saw and admired, but his one idea on his return was not to copy, but to advance. Therefore, if the public were educated to such an extent that they dictated the standard, the architect's standard of advancement would not have much chance. The remark that the demand created the supply did not follow in architecture: we could not have good work merely by crying for it. It was sometimes, in order to enforce an argument, a good thing to suggest an impossibility, and there were two impossibilities he would put before them. Let us suppose we had a public educated so as to appreciate the most beautiful work of architecture, and a race of architects quite incapable of producing that work: where would our architecture be then? Secondly, suppose we had a public willing to be led, and a race of architects to whom bad work was an impossibility. What did the disapproval of the general public matter in that case? All work would be good, whether they approved or not. It might be said that we should never see the time when all work would be good; and though that might be true it must always be borne in mind that there had been such times in the past, and there was no particular reason why they should not occur again. The advance in architecture during the last twenty-five years showed that this was not such an impossibility as at first might appear. Architects received encouragement from the public, and the public demanded something different from the commonplace. That their taste was not always good was probably not their fault alone. All who lived in large cities knew the kind of work by which people were surrounded—the kind of work which educated the public. But if buildings improved at the rate they had done during the last twenty-five years, there would be no need to read Papers on the education of the public, for that would follow as a matter of course. All, therefore, we had to do was, as Mr. Blomfield said, to put our house in order, to educate ourselves so that we could educate others, and not to be deterred by the fact that although we might sow it would be others who would reap.

Mr. Basil Champneys said he was one of those who took rather a gloomy view of the prospect of architecture at the present time, and he believed the evil was even more deeply seated than many might expect. He differed from the last speaker; for, however good our architecture, he could not see how it was to flourish without popular appreciation, or how there was to be a market for it if people did not choose to go to the market. There was no question that the other arts had suffered from this want of appreciation almost as much as architecture. Painting, until some few years ago, was exceedingly flourishing; but his belief was that the demand for it was in a great measure fictitious, and largely founded on financial speculation in the purchase of pictures. When this was exploded, popular love for it was shown to be practically non-existent by the great diminution of purchasers. Sculpture had comparatively little scope; popular judgment thought it a necessary completion to certain public buildings, but otherwise showed little love for it as a mere art. Still, with both these arts, there was a certain fashion of appreciation, and a more or less organised body of criticism—of whatever value it might be. But with regard to architecture this was altogether lacking, and there was no criticism which was in touch with the general public. The architectural room at the Royal Academy was considered by the ordinary visitor as a kind of accessible home for the concentration of such illustrations as appeared more sporadically in the auctioneers' windows;

every man was a law to himself in such matters, and the architectural critic, as regards popular influence, could scarcely be said to exist. If this were the case, we seemed to be altogether dependent on a public taste which neither was adequate nor wished to be improved, and for the education of which no systematic method existed; and it was important to know what was the standard of natural taste on which the architect depended for appreciation. He feared that this consideration did not lead to much encouragement. They themselves knew fairly well in what architectural art consisted, and this was exactly what the general public entirely failed to recognise. He would give a few instances. He had been accustomed to look with pleasure on a house which he often passed. Though it was in a style for which he had no special affinity, it was the work of an artist, marked by reticence and severe restraint. The other day he saw not far from it a definite attempt to reproduce it without the aid of an architect. The imitation, though close, resulted in the grotesque; it was a hopelessly stupid parody. He had no doubt, however, that it satisfied the owner, who probably congratulated himself on achieving a satisfactory result without having to pay an architect's fees. The same process, of which this was a salient instance, was to be seen almost everywhere. One had got almost to dread any new departure on the part of an original architect because of the certainty that it would shortly be vulgarised and brought into contempt by some stupid and grotesque imitation. The evil was widespread, and, so far as he could judge from results, the faculty of recognising artistic handling in architecture was yearly on the decrease. The speculator was rapidly gaining ground. Every year saw a larger proportion of buildings erected to which no one who by the utmost expansion of the term could be called an "architect" had had anything to say. A short time ago he happened to be walking with an architect friend in a district a few miles from London which had lately greatly increased. They determined, for amusement, to notice the many rather large houses they passed, and to see how many could be attributed to any sort of architect. In a walk of about a mile and a half they saw one, and that they found had been built by an architect for himself. But probably many of the owners of these houses were so-called men of taste; many of the interiors were no doubt decorated with "artistic" wall-papers, and doubtless the style had been in many cases made a point of by the building-owner. It was only the artistic touch, the essential of architecture, which was independent of and above all questions of style, to which all had been equally blind. But he was not sure that the absence of the regular so-called architect had always, or under all conditions, been a calamity to art. Many of the—to him—best buildings of past times had been built by those who could not call themselves architects at all. For instance, Professor J. W. Clarke had shown that the very fine river front of Clare College, Cambridge, was built by the Cambridge builder of that date. But how different were the conditions under which such people worked from those of the moderns! We had only to study the handbooks with which the workmen of former days were equipped to see how carefully they must have trained themselves in all the details. It did not seem to matter much whether the designer were called "architect" or "builder" so long as he possessed the necessary knowledge and skill; but the contemporary speculative builder was equally deficient in both. A client of his once started building a house which he had had designed by a local builder; but he got nervous about it when he saw the plans, and got him (the speaker) to see the designs; he declined to interfere with the exterior, though he got the builder to alter the plans so as to make the rooms livable. The result was what might have been expected: his friend did not realise that the builders of past days had a great deal more knowledge than some of the so-called architects of these days. He had put before them a rather pessimistic or discouraging view of the present, and he had not much to say that was encouraging as to the future. He very much doubted, even if the work of architects were raised to a uniform standard, whether that would do much good if the public did not want good architecture, and if people were content with the speculative builder. Some good might be done by some of the methods which Mr. Blomfield proposed, though he did not look with favour on what he said about pattern-books of windows and doors, for he was afraid that the speculative builder, with the encouragement of the client, would put the wrong windows to the right doors. He believed there was plenty of architectural talent abroad which would do what was wanted, and abolish the speculative builder, if only the public rose to the occasion. Were they likely to do that? It seemed to him that a flank movement in architectural strategy was necessary. Mr. Blomfield's *History of the Renaissance* was precisely the sort of thing for this purpose—a work of a high literary standard which many people of literary attainments had read as a book, even when they had no particular interest in the art. In addressing public bodies he had tried to interest them in architecture quite indirectly. If he had given out that he would address them definitely on architecture, they would not have attended. He also thought it well to attract people by showing a knowledge of the practical superior to that attainable by the speculator, for the public could understand points of that kind, though they could not understand points of art. Better times for art might possibly be inaugurated as a consequence of the war and of the recent national crisis, or of any other crisis we might have to go through.

Mr. E. S. Prior said that this difficult subject was clearly an attractive one for architects, since the public need for education had come up at all the sittings of the Congress. Now it had its own sitting, and Mr. Blomfield had laid down an excellent plan of campaign, with all the strategy and tactics of the matter. The youth of England were to be dealt with; but why not the ladies, who merited special campaigning? Still, with Mr. Blomfield's science, the army might advance from the raw recruit just learning to handle his T-square, to the veteran assessor of national competitions, all banded together with the imperial idea, and carry forward the flag of the architect's profession till it waved over the Ideal City so ably depicted the previous evening, in which the architect was the all in everything. The only difficulty was the public, who were so ready to be conquered, yet turned up in the rear again as uneducated as ever. He admired the agility with which Mr. Blomfield had skirted the fact that this education of the public was a very old matter. It was with no disrespect that he thought of architects as the Sophists who educated the public so long and so uselessly; but he might observe that those professors of wisdom had never been agreed as to what wisdom was, but only that it was necessary to educate the public therein. Mr. Blomfield also had not noticed that when literary amateurship, to which he attributed so much disaster, came into being, that was the moment when the education of the public was begun by the architects. Were not both similar symptoms of decadence? The revivalists—Greek, Gothic, Queen Anne—all had done their best, and still the public were not educated. Now it was proposed to attack them with "mass and proportion, light and shade, and the limits of the arts." He would be excused for saying that the public might look forward to this new education with equanimity, not to say amusement. The Public said to architects, as Homer's gods said to men, "Why do you blame us, when all the while it is you yourselves heap up your ills?" Why this long education had not brought architecture, was because architects had not got architecture to give. Except for this, Mr. Blomfield's programme was an excellent one. As the Greek revival produced Cockerell; the Gothic, Butterfield; the Queen Anne, Norman Shaw; so also "mass" &c. might give us notable architects; but architecture—that would begin only when the public built without "architects."

Mr. Paul Waterhouse, M.A. [*F.*], in moving a vote of thanks, said that the Paper had opened up an extremely interesting subject—one which they all thought about at times. Of course, everyone realised that the conditions of the present day as regards architecture were vastly different from those of the past, but he could not feel that the ignorance of the public was at the bottom of these changed conditions. In the first place, they were due largely to the great multiplicity of our buildings, and to the fact that so many of them were built by persons who were not architects at all, or architects in name only. But had the public ever been seriously interested in architecture? He doubted whether there was any evidence to prove that in the great architectural ages of the past the public had shown a learned interest in the subject. If one looked back to Greece, he believed that one might search the literature of the Periclean age without discovering anything that might be called an intelligent lay appreciation of architecture; and as for Rome, the passages in Latin literature which could prove that the writers had anything more than the most superficial knowledge of the subject might be put together on half a page. Pliny the Elder, who was so often quoted by writers on Roman art, introduced, to be sure, a few art criticisms into his Natural History under the heading of "Stone," but did not appear to have a technical knowledge of architecture at all. If it had always been so with the public, he did not think that the outlook was necessarily bad because the public knew so little of architecture now. There was a worse thing than ignorance, viz. the nescience of ignorance. Might he be permitted to make an analogy? It was dangerous to compare an art with a science, but one might compare, for a moment, architecture with medicine. Architecture, it might be said, was an art which dealt with common needs with which everyone was concerned; therefore the public could not afford to be ignorant of architecture. That was exactly the case with medicine also—the body was, at all events, as intimate to human beings as the house they lived in, and it might be expected that ordinary folk should know about medicine. Happily, they did not, and they consequently went to the doctor. But architecture in the eyes of the public was such a simple kind of thing that a good many people imagined they knew all about it. The man who would not think of doing without his doctor frequently thought of doing without his architect; and if one could pursue the analogy farther, it would be to express a Quixotic hope that architects might do in their own sphere what was done by doctors in hospitals, and should conduct architectural dispensaries, in which men who did not employ architects should be architecturally treated gratis. Architects would not gain financially, but the country would gain in art. He thought that they should leave the public alone in this matter, though it was certainly permissible to say a few words in criticism of that invulnerable body. We could all say what we liked about the public, because every individual of the public knew he at least was not being personally alluded to under this title. He feared that architecture was rather a big subject for the public to be educated in, though he did not wish that architects should stand in the way of any members of the public should they wish to know all about it. It always seemed to him, however, that one was learning something about architecture every day; and the more one learnt about architecture, the more one felt one's ignorance about it. It would be easy to teach the public the outlines—the surface, so to speak—of architecture, but that deeper knowledge which could give them the critical faculty could not be imparted without a very great deal of study. There were a few architectural laymen who had that thorough knowledge, but one could not speak of them as "the public." As Mr. Blomfield had hinted, architects had really their own house to set in order; there must be no ignorance amongst architects, and it was to ensure this that there were to-day architectural schools and examinations. There were, he knew, many architects who were enemies to examination, and all were agreed that we could not make an architect by examination. But the friends of examination did not regard it as the winged sandals of Mercury, or as a sort of architectural Pegasus, but rather as a prosaic means of making sure that no ignoramus was let into the profession. It was the general education of architects that was wanted to command respect, and not a mere knowledge of technicalities. The examinations had a certain positive function in the encouragement and direction of study, but the examination standard should be given rather a negative than a positive value. It set a measure below which we would not let our members sink, not a goal which was to be looked on as the culmination of their studies.

Mr. John Slater, B.A.Lond. [*F.*], in seconding the vote of thanks, said that one suggestion brought forward by Mr. Blomfield was an exceedingly useful one. As Mr. Waterhouse had said, one could not expect the public to have a great technical knowledge of architecture, but at any rate they could be taught to take an interest in it; and the remark he was struck with was that about giving schoolboys some slight acquaintance with architecture. Everyone who had seen the schools of average schoolboys—he did not mean Board schools, but the big schools—must have been struck by the intense dulness and ugliness of a great many of the rooms in which the boys worked. That seemed to be a thing which could be easily altered; and if the class-rooms in which our boys and girls were taught history could be embellished by good photographs or drawings of our cathedrals and other prominent historical buildings, the scholars would then, at a very early stage, begin to realise a little of what was such an important thing, viz. the close connection between the buildings of a country and its history. Mr. Blomfield had alluded to the Cambridge and London University Extension lectures on Architecture. He (the speaker) had more than once been asked to set an examination paper and examine the students' papers in connection with those lectures, and he was bound to say that the syllabuses of the lectures in many cases appeared to be very different from what they might be, with one exception, viz. the syllabus provided by Mr. Arnold Mitchell. That was a most admirable syllabus, illustrated by delightful sketches which could not fail to interest all. The students' papers he had looked through had convinced him that even such a slight knowledge of architecture must be a very great interest and use to the people who had gained it. They might go on a journey, and would be able to take more interest in the buildings they saw than they would have done had they known nothing about architecture. As to the effect of such education on modern architecture, he did not think it would be much; and as to that, it was architects, and architects only, who must think of education and inspiration, and, as Mr. Waterhouse had said, go on learning every day of their lives.

Mr. Beresford Pite [*F.*] said they ran a great risk of forgetting an all-important truth—"A little learning is a dangerous thing"—and the education of the public, unless it were an education as complete as the education of the architect, would possibly do the architect more harm than good. The only education of the public that could be of any good to the architect was an education that placed the public above the level of the architect, so that the client, instead of dictating ignorantly, improperly, and unwisely to the architect, should direct him with wisdom and sagacity to achieve something which otherwise the poor architect would not have been able to do. He was very much afraid that that ideal must be left, with Mr. Milner's delightful ideal city which they had heard about the previous night, to the dim and distant future. But to be practical and not to be pessimistic, did the education of the public in architecture matter to them at all? The education of the public in building construction was something obviously for the benefit of the community. The public needed scarcely any incentive to get educated as to their domestic requirements, the arrangement of their warehouses and commercial buildings, while the architect often had to suffer dictation from all sorts of ecclesiastics in regard to the erection of places of worship. The point Mr. Blomfield in his eloquent and interesting Paper insisted on was the education of the public in the artistic side of architecture, and he (the speaker) suggested that that was altogether a banality. Architects did not wish nor want it, and the public were better left in whatever delightful simplicity as to architecture they might be in, while architects should pursue their studies with all the enthusiasm they could. The art of ladies' dress, of military uniforms, and to a certain extent the heraldic elements, were living arts amongst us, and free from the artificial influences of revivalism; whereas the art of architecture was an artificial one. Let them leave the public to cultivate those simplicities that delighted them, and leave the architect to the superior wisdom which he could not afford to do without in these indifferent times. It seemed to him that there was a very important fact in Mr. Blomfield's review of the circumstances which had led to the present situation, which must not be overlooked. Mr. Blomfield started with Walpole's little Strawberry Hill villa. Of course, that was followed by Beckford's atrocity at Fonthill, and James Wyatt's ubiquity in all the styles. But parallel with this apparition of the taste—for it was only taste, a Chinese taste which one saw in Kew Gardens, an affectation of the grotesque—was a deep and enthusiastic artistic appreciation of Greek work derived from a sane and healthful study, which none could deprecate, of the remains of Greek work. Stuart and Revett were the pioneers, and the movement culminated in the work of Cockerell. Then we were brought face to face with that flaming portent Burges, whom no one could accuse of artificiality; he was a burning enthusiast animated with the idea that Gothic was the only art, and one which he practised as an artist. The rival enthusiasts were the Classic enthusiasts, who saw in Italian Classic the necessary perfection of domestic buildings, and the friction between the two schools was sincere and unartificial. Could we afford to do without that flame of enthusiasm which was cultivated and based upon the study of ancient architecture? We had left meddling with the ashes, and were practically throwing cold water on our enthusiasms; and now we were going to educate the public! Until we could set our house in order, and establish a canon which would again raise our enthusiasm and re-create the interest which had gone, we should be helpless and powerless to appeal to the public. What was needed was intelligent criticism of architecture—a school of criticism. What was wanted was guidance in the matter, and of that there was very little indeed. It seemed to him that there was ample scope in surveying the work of the last century for very careful critical work. We could look down on Ruskin, and talk of the summer of his Gothic enthusiasm, which was unduly prolonged. We were already hungering after the Greek afflatus, and there were signs that it would again exercise an influence on our public buildings; but we must not plunge into mere revivalism. Let them examine a building as a building, apart from its relation to past styles. Mr. Blomfield's mention of the proper appreciation of void to solid, of the play of light and shade, the value of outline and mouldings, the concentration of ornament and the appreciation of colour quite apart from any detailed examination of style, were all subjects in which architects even were not trained, and in which they might very well train themselves. What was wanted was eclectic classes, not for the purpose of reproducing, in a horrible mixture, all architectural history in picture-books, but in order to gather the value of form apart from mere antiquarianism. The real public that they might with advantage educate was not the public from which architects derived clients, or the public which favoured them with criticism in the daily press; it was the jerry-building public. And if free classes for the education of the jerry-builder in architecture, with a supply gratis of designs for street houses, could be started, we should be doing a great deal. Jerry loved ornament, but he had sense enough to see that a building was cheaper without ornament than with it. But the cheaper architecture or anything else was, the more it was ornamented—the plainer articles of everyday use were the more expensive. That ought not to be so; and if they could get hold of Jerry, and explain to him that plain tiles were better than ornamental ones, he thought that good would be done to the community at large. He was rather afraid of the pattern-book, for people were not the simple children they once were, and they learnt from the pattern-book without being better for doing so; and he was afraid that to the jerry-builders it would certainly do more harm than good.

Mr. E. W. Hudson [*A.*] said that it was necessary first for architects to agree upon what the public should be taught as being true taste in architecture, and then at some distant date it might see that it got it. He was, however, inclined to agree with Mr. Pite that in educating the public they might be creating a kind of Frankenstein's monster, with disastrous consequences to themselves if they were unable to control or incompetent to satisfy it. There was with English people a general indifference, which had to be replaced by an intelligent interest. The public must be willing to receive instruction. According to Viollet-le-Duc it was otherwise with his countrymen. "Si le goût tient encore une place en France, c'est principalement au public que nous devons cet avantage." In England the greatest danger lay with the rich amateur who thought he was a born architect and played havoc with the treasured work of bygone ages in spite of every protest. On the other hand much good could be done by an amateur like the late Mr. Beresford Hope. In the abstract the consensus of opinion to-day was this: that it is desirable to produce in architecture an expression of the wants of the period in which we live; but great difference existed as to what style or what adaptation of it was best suited for that purpose, or whether something new must be created. With many teachers, representing no defined school, things must remain as now, with desultory dogma by units of many notions. He felt that architects influenced the public very little by their works; and in some cases it was as well that it was so. There was so much struggling after a pseudo-picturesqueness—a preponderance of very late Gothic, emasculated, if he might say so, and tending towards the Churrigueresque. In the time of the Gothic revival art tenets were enunciated with no uncertain sound, and ecclesiastical designs based on the best period of mediæval construction were general, produced so accurately that they might have deceived the old master masons who wrought in the original types. In domestic work the same result was sometimes produced, with perhaps less reconciliation of conscience as to its adaptability to modern life and its needs, much as such examples as Cardiff Castle, Eaton Hall, and the late William Burges's house might have been admired; and now "the whirligig of time brings his revenges." The ecclesiastical type referred to is fast going; the domestic type is gone. They were Sir William Richmond's "revitalised corpses"; but their vitality *was* undeniably vigorous, their physique splendid, but dying, necessarily, in an uncongenial atmosphere. The "art furniture" dealer and the decorator had some influence, as architects found to their regret when not consulted as to these matters. Then there was the "arts and crafts" movement, the effect of which must be considered as infusing individuality in detail. In this commercial age the requirements were such as brought the architect face to face with disagreeable problems, such as the support of a heavy structure upon steel posts, but apparently bearing upon a huge sheet of plate glass, as mentioned in a previous discussion. Pernicious influence is now threatened by importation of American framed "steel and skin" construction, against which we may have to contend very shortly. American capital and enterprise will be giving us repetitions of Queen Anne's Mansions—or thirteen stories of rusticated casing, with the five Orders and a cornice superimposed—to cope with demand for floor space where land is so valuable. One had pleasure in noting, in contrast, that the bijou building next Temple Gardens for Mr. Astor was created at the behest of an American. He feared the evil he predicted was not altogether chimerical. A school of criticism was *prima facie* a good suggestion; but the master critic would be likely to impress his own predilections upon students and inquirers, whereby the spontaneity of an embryo genius might be repressed. Was it not whispered, if not a matter of wide belief, that South Kensington training crushed individuality in art by means of system? Someone had said, "The most ingenious way of becoming foolish is by system." But he agreed with the suggestion for including the rudiments of architecture in the ordinary school training of boys and girls. Was architecture in such a transition state just now that we needed to set our own house in order? What said the *Athenæum* of the exhibits at Burlington House this year? "*Copies* of old types—mechanical adjustments—revolt against culture—clumsiness regarded as a charm—not even adapted to the purposes they are intended for—fashion and whim of their clients consulted by architects—clumsy version of low Dutch building, with occasional excursions into half-timbered architecture, or into the Adams style." This at least showed how others saw us. He had heard equally strong criticism from architects of each other's work. He wished he could think with Professor Simpson that interest would grow as our architecture improved; but the return of simplicity and dignity in design was something every practitioner could in the meantime strive after, remembering that "le goût n'est que l'empreinte laissée par une éducation bien dirigée, le couronnement d'un labeur patient, le reflet du milieu dans lequel on vit." Able teacher and willing learner, however, were essentials to success in fostering architectural taste.

Mr. H. G. Ibberson [*A.*] said he had great sympathy with Mr. Pite's remarks, especially when he deprecated too great a knowledge of the public in architecture, for he had suffered during the course of a short life a great deal in that respect. There were three stages in the relation of the public feelings to art. In the first, the public knew nothing, and cared nothing; in the second, the public thought it knew, but did not; and the third stage (which they might one day arrive at) was one in which the public had an intelligent knowledge and interest in the subject. He was inclined to think that we were in the middle stage, in which the public had no definite ideas at all, and was prepared to accept almost anything. He recently had had some decoration to do to a Nonconformist chapel under a very pleasant but quite inartistic building committee. He told them as little as possible, and then, instead of indulging in the familiar glitter of pitchpine and varnish, he treated the wood with dull stain, hung tapestry on the east wall, and generally did things entirely opposite to the preconceived notions of Nonconformists. Much to his surprise, the work was liked by his clients! The suggestion was made that a pattern-book should be issued for the use of builders; and the criticism that the right door and the wrong window might get mixed up seemed apt. Something could, however, be done, he thought, in the way of improving the sections of stock mouldings issued by timber merchants. Mr. Blomfield was not quite kind in his reference to Ruskin, and his views as to morals and art. He (the speaker) did not mean to say that shown art was moral, and that a concealed girder was a vicious thing; but he thought that a people's morals influenced its art. While the public desired the most show for the least money, while a workman under trades unionism did as little work as he could and took no pride in it, though isolated buildings of beauty might be erected, architecture would be an exotic and not a natural growth. He believed that Ruskin's writing had done much for architecture, and he should like to add a humble tribute to the greatness of the man and the greatness of his influence.

Mr. Blomfield, in the course of a brief reply, said the odd thing was that he agreed with most of what his critics had said, but he must correct one or two inaccuracies. He had certainly not suggested, as Mr. Prior seemed to think he had, that the public should be taught the technicalities of proportion, mass, voids and solids, and so on. It would be useless to do anything of the kind; and what he had said was that architects should study these matters. At present most of them, and especially the younger men, appeared to ignore them. Another point raised by Mr. Prior was whether an architect was an architect or not; for that was what it came to. Mr. Prior said we should not get architecture until we got buildings designed by men who were not architects. The meaning of this he could not grasp. He could not seize the precise point at which a man ceased to be a builder and became an architect. In any case, the point seemed to him immaterial, and to be merely playing with words. As to pattern-books, the suggestion was not his own, but was in fact first made by Mr. Lethaby some years ago. Whether the suggestion was practicable or not it was difficult to say, and no one had even suggested that architecture would be obtained by this means. All that could be arrived at was a certain irreducible minimum of expression, and a means of escaping the prevailing vulgarity of builders' ornament. Some of the speakers had assumed that what he had been driving at had been the reintroduction of strict Classic. Strict Classic, in the sense assumed by the speakers, was just as poisonous as strict Gothic, for in both cases the assumption was that it was to be an exact revival of a past style. What was wanted was to get people to conceive of architecture apart from styles, and not to identify it necessarily with any given style at all, whatever their personal preferences might be; and those qualities to which he wished architects would address themselves were involved in all good architecture, no matter what the style. As to the public, it seemed to be generally admitted that from this point of view the public was hopeless, and this was what he thought himself; and in writing his Paper (the subject of which, he might explain, had been supplied him, and was not his own choice) he had merely suggested what he thought might be the best method of dealing with the public, but he was not in the least sanguine that anything could be done, and his own idea was that architects should give up worrying about the public in this matter. They should satisfy their own artistic standard, and when they had done that the public would probably be satisfied—if not immediately, yet in due course. The whole gist of his Paper was that architects had to deal with themselves if they hoped to educate the public.

THE RESPONSIBILITY OF LOCAL AUTHORITIES IN RESPECT OF BUILDING BY-LAWS.

By Lacy W. Ridge [*F.*]

IT may be present to the minds of those who are members of the Royal Institute of British Architects that on the 12th June 1899 that body passed unanimously a Report drawn up by a Special Committee on Building By-laws in the non-Metropolitan districts of England and Wales.

Among the suggestions of the Report was one that the Local Government Board should be requested to receive a deputation on the subject of these by-laws. On the 26th October last a deputation which had to be hastily got together, and was consequently not as fully representative as might have been desired, waited at Whitehall on Mr. T. W. Russell, M.P., the Parliamentary Secretary of the Local Government Board. Several of the permanent officials of the Board were present. The immediate result I may describe to you in the Report sent to the Council of the Institute and published in the Journal on 11th November 1899.

The Deputation, referring to the Report addressed to the Local Government Board by the Institute, laid before Mr. Russell the views of the Institute on the advisability of grouping the Model By-laws for non-Metropolitan districts in England and Wales, with the view to the adoption of such groups, and such only, as were applicable in particular localities; and the exemption from certain groups of by-laws of detached buildings standing within their own grounds; the uncertain requirements of local authorities as to the drawings required to be deposited, and their declining in some cases to give the grounds of their objections where approval of plans is refused; the establishment of a special technical Tribunal of Appeal; the extension to the provinces of the London system of dealing with rights as to party-walls, and other questions connected with the administration of building by-laws.

Mr. Russell, in reply, said that, as regards the principle underlying the Report, *i.e.* the advising by the Local Government Board of the local authorities as to what by-laws it would be best for them to adopt, it was always a delicate matter, owing to the jealousy of local authorities at the interference of a central authority. He thought the question of grouping the by-laws was a fair point for consideration. As regards the demand on the part of local authorities for drawings, such bodies often exceeded their rights; but in some instances powers were given to local authorities by special Acts. At the stage reached by the present Parliament, he could hold out no hope of legislation on the questions involved, but everything had been carefully noted, and should be submitted to the consideration of the expert advisers of the Board, who would report as to the extent it would be possible without legislation to meet the views of the Royal Institute. In conclusion, Mr. Russell asked whether it would be possible to confer with the Deputation again. An answer having been given in the affirmative, the Deputation thanked Mr. Russell for his courteous hearing, and withdrew.

If the exigencies of an aged Parliament rendered legislation impossible in October the crisis through which the country has since passed has filled not merely Parliamentary officials but the general public with anxieties and considerations of such tremendous moment that the lesser evils which local legislation or administration can cause or cure have sunk into insignificance. It would, in the months that are past, have been useless to attempt either through the newspaper press, with their well-filled columns of startling and too often sad news, or through any other channel to arouse public opinion on such a subject as Building By-laws.

So far as legislation is concerned, we must be content to wait in readiness to impress on a new Parliament the propriety of considering Bills for the extension to the whole country of the Metropolitan system respecting party-walls; for some proper and equitable system of dealing with "ancient lights," and for such modifications as may be desirable in the Acts affecting buildings in non-Metropolitan districts. Primarily, however, the Report of the Special Committee was intended to deal with the by-laws under existing Acts of Parliament as a matter of administration only. Whether anything has resulted from the consideration of the expert advisers of the Board promised by Mr. Russell I am not in a position to say. It is not inconceivable that at such a time the blessings of peace may have special charms for those who are so comfortably described as "Permanent Officials," and that things are going on much as before; and that vast tracts of open, sparsely inhabited country are still being annexed to an ambitious little town somewhere in the neighbourhood, and the liberty of the inhabitants subjected to "Urban Powers."

Unfavourable, however, as the circumstances are for vigorous action, I felt that I should be almost "looking back" after "putting my hand to the plough" if I allowed a Conference of Architects to be gathered from all parts of the country here in London without at least offering to bring forward again this subject of Building By-laws, on which we have still so much work before us. The particular part of the Report of the Select Committee to which I wish to call attention is its last paragraph. "The influence of those who are interested in building would have to be brought to bear upon the local authorities to urge them to give effect to the proposed measures of relief by adopting such, and such only, of the divisions of the by-laws as would be applicable to their district or to different portions thereof."

Gathered in this Conference must be many who have great personal influence with the members and officials connected with local authorities, while nearly all must from time to time have dealings with them. Architects collectively and working together (why do not architects work better together?) should have an almost decisive voice in these matters. Any other profession would be recognised as the authority on any subject bearing so directly on its work as these by-laws do on our work, and would be allowed to suggest for enactment pretty much what it thought fit. Under the Public Health Act it is the local authority that makes the by-laws, and it has power to alter or repeal them by a subsequent by-law. It is merely provided that they shall not take effect till confirmed by the Local Government Board.

Now it is necessary that the true position of the local authorities should be understood in this matter. Possibly the more important corporations may know their own power, but the constant excuse for harmful by-laws given by members of the smaller bodies I find to be, that the by-laws are thrust on them by the Local Government Board. Mr. Russell, on the other hand, speaks of the jealousy of the local authorities at the interference of a central authority. The explanation of the difference is, I think, that the smaller authorities and their advisers are quite without the knowledge and experience which would make them capable of struggling against the centralised Board at Whitehall, and so take whole what is sent to them. Herein architects as a body might very effectively help these authorities, and I propose to call attention to three special points taken out of the Institute Report as being of particular importance.

The first point on which architects ought to insist is that there should be definite and explicit regulations as to the deposit of drawings. This appears in the body of the Special Committee's Report, page 450 of the 1899 volume of the R.I.B.A. JOURNAL. The principle is that a block plan, with drainage, public roadways, and adjoining premises, should be deposited and left with the local authorities, and that other drawings should be submitted for inspection, stamped, and returned.

It is of great importance that the requirements of the local authorities as to the deposit of drawings should be reasonable, and that they should be explicitly stated. The Committee suggest that in all cases a block plan, with the lines and depths of drainage shown thereon, together with the nearest public roadway and adjoining premises within 100 feet of the proposed building, should be deposited, and that, where required, plans and sections (together with elevations, if needful to explain methods of construction) should be submitted for inspection during a defined and limited time; which drawings should be then returned, stamped, if approved, or, if not approved, accompanied by a precise statement of the particulars in which the by-laws have not been complied with.

It seems to be a sort of tradition at Whitehall that the by-laws cannot go beyond saying that the plans and sections are to be deposited—a wonderful emanation, I suppose, from the legal mind. Mr. Russell, however, said he could see no objection to the By-laws making regulations as to the mode of deposit; and no wonder, for what the Act says is, "And they may further provide for the observance of such by-laws by enacting therein such provisions as they think necessary—as to the giving of notices, as to the deposit of plans and sections by persons intending to lay out streets or to construct buildings." Note the absence of elevations. "Provisions as to the deposit of plans," &c., is surely wide enough for a reasonable and definite arrangement. It is extremely objectionable that unnecessary drawings should choke up the offices of the Local Boards, and that architects should be called on to leave there in perpetuity plans of their works, to be studied at their leisure by the local surveyor—possibly a rival practitioner—and by his clerks. If for the public good persons about to build must make and deposit plans, they should at least be informed definitely what they have to do, and be put to as little trouble and, above all, subjected to as little delay as possible.

Next I would urge on you to get the local authorities to push the adoption of the Institute's by-law on party-walls (Division D, *ib.* p. 451). It is long to read through, and might not be wholly intelligible at once. It gives relief, however, in the case of small houses in two particulars which will be much valued by investing builders; it settles the point up to which the party-wall need not be carried through the roof, so that in exposed situations (as along the south coast), where the difficulty of keeping out the weather is considerable, and the risk of fire very slight, the roof over a row of small houses need not be broken. It would also admit of a single brick party-wall being used in cases where the by-laws now require, and require wisely, the use of one and a half brick external walls. The main charm, however, of treating party-walls in a division by themselves would be that it would enable the local authorities in many cases to say: "You have laid out your streets with ample space, in accord with Division B; you will comply with the sanitary requirements of Division F; separate your houses properly with party-walls, as Division D, and we will trouble you no further; for it is impossible to see how you can be any nuisance or danger to your neighbours, and we will trouble you no more with by-laws." Taking such a position with small properties, or with pairs of workmen's cottages or villas, particularly in the country, would be a great relief to everyone, and do much, very much, to obviate the ill-feeling which now constantly arises from insisting on useless trifles merely for the sake of enforcing the by-laws, as if that in itself were a good and wholesome thing; an opinion only too likely to grow into a fossil in the official mind.

Again, I would insist on the alterations named under Division E on page 452, whereby in a story in a roof, and in the story immediately below the roof (not being a ground story), timber construction and weather tiling or plastering is allowed in place of brick in detached or semi-detached domestic buildings, and also that some credit respecting the thickness of the wall should be given for the tiles in weather tiling nailed to brickwork. Admirable, warm, sound, and picturesque construction, very characteristic of some parts of the country, is being thrust out of use, not because it is defective or has been found wanting, but from pure ignorance, and because the by-laws were founded on the London Building Act. This was primarily a piece of panic legislation after the Great Fire, and directed, and rightly directed, against fire in a town crowded in a way we can hardly now realise. Many of its provisions are inapplicable where wind or rain, which are certain, are far more formidable than the very rare fire which soon burns itself out. The London Act landed us with Gower Street and Harley Street as the normal types of building. It is not for architects to acquiesce in the same sort of thing happening all over the country through the abolition of local characteristic styles of building.

Finally, let us ask the local authorities to remember that it is local government they have to administer ; that they exist, not for the enforcement of a set of by-laws, whether they be useless or not, but for the good of the community ; and that their office will be best promoted in the matter of building when they carry with them the intelligent goodwill of those that build ; which they certainly will not attain by curtailing unnecessarily the liberty of the subject.

DISCUSSION.

Mr. W. M. Fawcett, M.A., F.S.A., *Vice-President R.I.B.A.*, in the Chair.

The Secretary R.I.B.A. read the following communication from Mr. William Henman [*F.*], of Birmingham :—

" Having had the opportunity of perusing an advance copy of the remarks which Mr. Lacy W. Ridge has drawn up for to-morrow's meeting, I desire to record my appreciation thereof and to congratulate Mr. Ridge upon the very concise and temperate manner in which he has stated the case. Although it may be some time ere local authorities realise their true responsibilities in the matter of building by-laws, I feel sure that the excellent work done by the committee appointed by the Institute will in due course effect improvement ; but it is a matter which must constantly be kept to the front, and reform must persistently be urged in official quarters as opportunities occur. A few years ago the city of Birmingham adopted new building by-laws which, among other things, required greater thickness of walls than had previously been employed. Building-owners protested, but no relaxation was granted until the city authorities themselves determined to erect some artisans' dwellings. They then realised that such could not be built to pay, and had to adopt the undignified proceeding of sending a deputation to the Local Government Board to petition for a modification of their own by-laws. This is one of numerous illustrations which might be given in proof that many a building by-law is framed or administered regardless of the public welfare."

The Chairman said that, as Mr. T. W. Russell had remarked, there was always the difficulty with headquarters of calling forth the jealousy of the local authorities ; but it was curious that the local authorities should be jealous of the architect. When one came to carry out the by-laws, what seemed so strange was that one should be so bound and tied down to the exact letter, and not to the spirit of the by-laws. It seemed to him that what was wanting in a revised set of by-laws was a clause making it possible to give a certain amount of freedom in certain cases. The local authorities should have power to relax their requirements so long as the spirit of the by-laws was adhered to.

Mr. Ridge said that the local authorities were not bound in the least.

Mr. Lewis Angell [*F.*] said the Local Government Board did not allow any discretion, but sometimes local authorities would not take proceedings against those who infringed the by-laws ; they shut their eyes.

Mr. Ridge said he had received a letter from a member from the North, who wrote to the Local Government Board suggesting to them that they should cause some local authority, in which he was interested, to enforce their by-laws. The reply he got was that the Local Government Board had taken legal opinion on the subject, and they found that they had no power to compel the local authorities to enforce their by-laws.

Mr. Ralph Nevill [*F.*] said the subject was one of the utmost importance to members who practised in the country and the provinces. Their London friends did not always appreciate the great difficulty those who practised in the country had to contend against in this matter. He trusted the Conference would press on the Institute the need of getting some settlement of this matter which would be satisfactory. No Government department could ever be got to do anything unless it was constantly worried. Permanent officials were content to let things go on as they were. If the Institute represented the architects of the country it was necessary that the members of the Council should remember the extreme importance of this question to provincial architects. The Institute must not weary in the matter, and in a case in which the interests of the profession were so much concerned they must continue to work and get something satisfactory settled. The by-laws were quite as offensive to the British public as they were to the architects. The *Spectator* had printed letters for months on the subject, and the whole country concerned with building was alive to the trouble caused by the by-laws, and was anxious for something to be done. It had been said that the local authorities were jealous of any interference. That was not the fact, because, in his experience, they were willing to adopt a modified scheme of simple by-laws which would be suitable to little country districts; and on applying to the Local Government Board for ratification to do so they had been informed that the Board would not ratify such by-laws, and that the whole by-laws must be taken, or none at all. These by-laws were drawn up by London architects familiar with London and not with country methods. Some of the provisions were childish. It seemed to him that, as Mr. Ridge had said, they should not ask at present for anything that would involve new legislation, but should work on the lines of the Report sent in to the Local Government Board, and so at once get them to relieve local authorities from enforcing the requirements in certain cases. Where there was a sensible chairman and surveyor many things were not insisted on, and the way they got out of the difficulty was to say nothing about any departure from the by-laws. But that put a great responsibility on an architect who might advise a client to take no notice of the rules of the Board. The law was sometimes put in action unexpectedly. Again, a surveyor might permit certain deviations from the by-laws, whereas his successor would not—an experience which had been his (the speaker's). He hoped that this matter would be pressed forward, and that the Local Government Board would have no rest until something satisfactory were done in the matter.

Mr. Maurice B. Adams [*F.*] said it would be wiser to concentrate the attention of the public on the practical rather than the artistic side of the question, because in the first instance it was clear that very little support would be received in respect to anything which mainly had to do with the artistic side of the matter; but with practical considerations the ordinary man in the street would realise exactly what they wanted, and architects would be more likely to obtain a hearing. By-laws which were framed for the control of urban buildings were often now strictly enforced in parts of parishes far removed from such conditions, and rules were applied in a hard and fast way which rendered the by-laws unreasonable, inflicting hardships without any corresponding advantage. Mr. Adams quoted an instance within his own knowledge, wherein he had lately been obliged to carry out some sanitary work on a country job in Surrey in a way contrary to his better judgment and the requirements of his client.

Mr. Charles Hadfield [*F.*] said he hoped the Institute Council would not hesitate to use its influence in the matter. It was desirable that the authorities and their advisers should read between the lines regarding the hard and fast enforcing of these by-laws. Those of them who lived in large Midland and Northern towns where there were insanitary areas, knew that there were many poor people who could not pay more than three shillings a week for rent, and houses for them could not be built under the circumstances and let at such a rent. At Sheffield the local authorities had, on the urgent representation of the Sheffield Society of Architects and Surveyors, done something in this direction. They had not accomplished much, but still something had been done. The cost of cottage property for the very poor was, notwithstanding, becoming too great for the rents that the poor were able to pay, and this had an adverse effect on the question of the housing of the poor. It was an aspect of the question that should be pressed home on the authorities.

Mr. A. E. Sawday [*F.*] said architects were not a mercenary body; still they should look at the financial aspect of the matter. Someone had said that day that architects were supposed to be paid for copies of their plans; that was correct in the abstract, but not absolutely, for in consequence of these by-laws the cost of preparing plans was so considerable that clients were driven away from the architect to the builder. An architect often found it necessary in cases of small alterations to make an actual survey of the whole of the property, and the cost was such that work was deflected to the builder. He felt the matter should be looked at from this point of view. It was especially desirable to get by-laws which would be applicable to the district in which a building was located. The difficulty was not so much in the large towns, but in the villages surrounding them. For instance, they had more difficulty in getting plans passed for buildings near Leicester than in Leicester itself.

The Chairman said, as to the discretion allowed to local authorities and the proposal to make it general, he thought there was a clause in the Sheffield by-laws allowing a certain discretion. The principle involved was that these districts had local self-government; but if that were so they ought to have some discretionary power. In fact it ceased to be self-government if they had none. It must not be forgotten that the position of surveyor to a local authority was often a very difficult one. A local surveyor once said to him: "I do not want to stop this; it is not at all to my interests to do so. What I take care of is that if I see anything contrary to the by-laws I just report it to my committee, and they can do what they like in the matter. I do that in order to safeguard myself against being called to account subsequently." That was the position; the surveyors did not want to push things to the extreme; it was the awkwardness of the local authorities. As a member of the Council of the Institute he would do his best to see that the matter did not rest.

Mr. Ridge, in reply, said that local authorities were influenced by local architects. Architects should not be content with the old cry: Why does not the Council of the Institute do something in the matter? The Council of the Institute had had a great deal of negative abuse thrown at it in that way. But the Council was not the body to move in such a matter; if anything could be done it must be done by the members. They had heard about the poor in towns being driven and crowded together; but the poor were being driven out of the country because the man who might build dwellings in country districts, viz. the country squire, who had been building suitably and as he liked for many years, would not submit to interference because some village or little town in the neighbourhood had taken to itself "urban powers." As to Mr. Henman's point about the Birmingham Council having to petition the Local Government Board, that was not the position of the ordinary local authority, who could make a by-law altering and repealing a previous by-law, though that by-law could not be enforced until the Local Government Board consented. Whatever the idea of the authorities might be, the Act of Parliament stated that the by-laws should be made by the local authorities.

The Chairman said that he understood that any ratepayer who felt himself aggrieved by an infringement of the by-laws could take action against the local authority in the matter.

THE EMPLOYMENT OF BOROUGH ENGINEERS AND SURVEYORS IN THE DESIGN AND ERECTION OF MUNICIPAL BUILDINGS.

In response to suggestions from various Architectural Societies allied to the Institute, that the question of the employment of borough engineers or surveyors in the design and erection of municipal buildings should be submitted for discussion at the Congress, the General Committee referred the matter to a small sub-committee, with the result that a series of resolutions were framed, and Mr. Charles Hadfield, of Sheffield, and Mr. A. E. Sawday, of Leicester, consented to bring the subject forward at the Congress. The resolutions were as follows:—

1. *That in the interests of the art of architecture it is inexpedient that buildings of a municipal character be designed and supervised by engineers or surveyors having no architectural training and experience.*
2. *That as a matter of sound finance and in the interests of ratepayers, it is desirable that the duties of the borough engineer and surveyor should not include work of an architectural character.*
3. *That it is detrimental to the interests of the architectural profession that buildings of a municipal character should be designed and erected by the borough engineer and surveyor.*

The matter came before the Congress at the final meeting, Mr. W. M. Fawcett, *Vice-President R.I.B.A.*, being in the Chair.

Mr. Chas. Hadfield [*F.*], who moved the first Resolution, said:—I do not think the resolution needs many words of mine to ensure it a sympathetic reception from a representative meeting of architects within these walls, to which cling memories of so many great architects, whose names and deeds are inscribed on the roll of honour of this Royal Institute. I need only cite *inter alia* Cockerell, Barry, Pennethorne, Butterfield, Scott, Street, and William Burges, that admirable, learned, and accomplished man.

To the older members of the Institute, who, like myself, have listened, as enthusiastic students, to their voices in the past, these names should be, at a time like the present (which many of us regard as one of crisis and difficulty), a call to action in all matters which concern the safeguarding and enhancement of the art of architecture—that art whose evidence, as all history teaches, will have no small weight in the judgment which posterity will form of the British Empire of the nineteenth century.

In moving this Resolution it is far from my intention to utter any words of disparagement of the work of the civil engineer, or of the land surveyor, whose calling, like our own, demands the exercise of high skill and ability, and who are both engaged in work of the first importance to the common good, much of it, moreover, being work which calls for sympathy and co-operation with that which is peculiarly the province of the architect.

I need scarcely allude in this connection to the laying out of estates for building, and the formation and improvement of the arteries of our rapidly growing towns and cities, work on whose success the best efforts of the architect's craft are dependent. I would yield to no one in expressing a thorough appreciation of the inventiveness and skill evolved in the carrying out of these public works, or of those great mechanical structures which will, perhaps, form the special distinction of the nineteenth-century engineer. But I fail to comprehend how the training of the civil or municipal engineer, or the land surveyor, and the many diverse duties which fall to his lot, can possibly qualify him to originate or to carry out architectural work of a character high enough to appeal to any man or woman of average culture, in an age when appreciation of great works of the architect is considered a part of a polite education. I define good architectural work to be that which is the peculiarly artistic outcome of skilful planning and sound construction. Both equally appertain to a plain building devoid of what are popularly styled "architectural features," and to a highly elaborated building—and I venture to submit that you cannot expect to get individuality, originality, and interesting design without a well-ordered plan. I think, too, you will also agree with me that these qualifications cannot be attained by the aid of "ghostly agency." Beyond all question "municipal buildings of a public character," such as town halls, public baths and libraries, hospitals, police and fire brigade stations, markets and industrial dwellings, demand the particular skill of the architect, whose especial province it should be to impress upon these works the marks of his intimate study of planning and design—and of that individuality which can never appertain to official architecture. With all our shortcomings this individuality has been recognised by foreign critics to be a distinctive quality of the best modern English architecture. I feel strongly that the system of conducting important building operations which has commended itself to the British public for the last fifty years, and which is now undoubtedly bidding for an increased sphere of influence, ought to be discountenanced, as being at variance alike with common sense and public utility. It is a system which is not tolerated by enlightened public opinion on the Continent, and I am glad to learn, on the authority of the *Builder*, that the American Institute of Architects has been taking concerted action on this subject for some time past, and with success; for they have brought about a considerable reform in the direction of removing architectural work from the control of the official surveyor.

I feel that I am speaking for most of you in expressing my own sympathy with the wide extension of municipal energy, which is one of the great progressive forces of our day, and I think I may fairly say that such a sympathy tends to increase one's regret that the great changes which this municipal enterprise is bringing about should result in unconsciously lowering the standard of national architecture, instead of being the means of fostering it; and that this, too, should happen at a time when, thanks to the educational advances of recent years, a marked increase in skill and originality may be looked for.

Municipal and Governmental enterprise is more intelligently developed in this direction in France, Germany, and elsewhere on the Continent than it is at present in this country, adapting itself, as it does, to the æsthetic feelings of the people at large; and one is glad to note that already the representatives of more than one of our important municipalities are beginning to appreciate the fact. In the Middle Ages, from the time of the social movements of the thirteenth century, the spirit which is actuating our great municipalities to-day was the factor which called into being the best efforts of the architectural craftsman throughout Europe, and made architecture *par excellence* the art of the people, and England from the thirteenth down to the eighteenth century was no exception in this respect, as many of our older towns and hamlets still bear evidence. I regret to say, however, that such evidence, at the inappreciative touch of the surveyor-architect, is becoming a vanishing quantity. The ruin worked in this respect, notably in the last twenty-five years, is known only to those of us who devote our holiday months to looking up the legacy left by a past which appreciated architecture at its true value; and it is against this all-round vulgarising and lowering of the standard of architecture to serve the needs of a grasping, sordid commercialism—never more in evidence than it is to-day—that I have ventured upon these few remarks.

The Secretary R.I.B.A. then read the following communication on the subject from Mr. William Henman, of Birmingham:—"Although I thoroughly appreciate the intentions of Mr. Charles Hadfield and Mr. A. E. Sawday in directing the attention of the Institute to the subject of the employment of engineers and surveyors to local authorities on works of architectural character (as I did at the Congress meeting held two years ago at Birmingham), I can but regret that greater care was not exercised in the wording of the resolutions, for they certainly do not exactly explain facts as they stand, or the objects we, as architects, should aim at; and consequently our intentions and aims are liable to be misunderstood and may be frustrated should the resolutions be adopted in their present form. In the first place, it is unreasonable that we should hold that 'it is inexpedient that buildings of a municipal character be designed and erected by engineers or surveyors.' I am aware that the resolution goes on to say 'having no architectural training,' but is that necessary for the erection of a public urinal or dust destructor? and yet those are buildings of a 'municipal character.' Again, is it becoming on the part of the Institute of British Architects to dictate what work should be entrusted to engineers and surveyors? Might not independent engineers and surveyors justly resent such interference with what they may consider their legitimate work—work which I think all of us will agree might just as well be carried out without the necessity for previously undergoing 'architectural training'? In the second and third resolutions I also submit that the term 'borough engineer and surveyor' is now antiquated. We have city engineers and surveyors and engineers and surveyors to district councils, but the term 'borough' is practically obsolete in connection with the appointment of engineers and surveyors. Without further criticising the wording of the resolutions, I beg to suggest the following, which in my humble opinion fairly embraces the three which have been printed, and reasonably conveys the views of the architectural profession on the subject, viz.:—

> 'That it is detrimental to the cause of architecture as an art, to the interests of the rate-paying public as a matter of sound finance, and to the architectural profession as a specially-trained body, for salaried engineers or surveyors to local authorities to be employed in the design and superintendence of buildings requiring architectural education and experience.

I may further point out that the above wording also embraces a point of great importance to the architectural profession, which is not included within the terms of the three resolutions as printed; that is, the evil arising from salaried engineers and surveyors undertaking private work of architectural character, whereby, in consequence of their official position, they become unduly favoured competitors with trained members of the architectural profession. I regret that my engagements prevent me being present at the discussion, and that circumstances have interfered with an exchange of views between Messrs. Hadfield, Sawday, and myself. I feel convinced we all hold the same opinions upon the subject in the abstract; we realise the evils resulting from the employment of salaried engineers and surveyors for work requiring architectural learning and skill; consequently, the only difference between us is, in what words shall the subject-matter be placed on record before the public? With all deference to those who framed the three resolutions, I hold that the one I have presumed to put forward not only states the facts correctly, but expresses clearly the opinion of those in the architectural profession who have given thought to the matter, and I appeal to the movers of the resolutions to accept the revised wording. In addition, I express the hope that the Institute will not permit the matter to rest with this pious expression of opinion, but that a committee may be appointed to investigate and obtain particulars respecting the numerous works of architectural character with which salaried engineers and surveyors have during the last ten to twenty years been entrusted, their cost compared with those of similar character designed by trained architects, and their relative architectural characteristics, for I feel sure that a committee, working on the same business lines as the one which was appointed to consider the Building By-laws, would do much to enlighten the public upon the subject and materially help to put a stop to an evil practice."

Mr. C. H. Brodie [*A.*] said the position was a little extraordinary, but he should be glad to second Mr. Henman's motion, because he felt it was very much better than the three printed resolutions. At the same time, he should be sorry to cast any slur on the framers of the three resolutions. If the three resolutions could be withdrawn and Mr. Henman's substituted he thought it would clear the ground.

Mr. Lewis Angell [*F.*] said he thought they must all agree with resolution No. 1, which was complete and sufficient in itself. Speaking as a borough engineer of many years' standing, he thought it desirable that engineers should not carry out architectural work unless they had had architectural training. The first resolution went quite as far as Mr. Henman's amendment, and was much simpler. If he should desire to amend it, it would be in order to require that architects holding the position of borough engineer should not carry out engineering work without engineering training and experience. It was no uncommon thing in provincial appointments for a local architect to compete for the appointment of borough engineer, and he knew of local architects appointed borough engineers who had undertaken such work as the construction of drainage, the result of which had been a conspicuous failure, simply because such work did not come within an architect's experience. If it were necessary to express any opinion at all, why should they go beyond resolution No. 1? No. 2 was a conundrum, and the third was a trades-union proposition.

Mr. H. H. Statham [*F.*] said he wished to oppose Mr. Henman's amendment, as it included some of the proposals belonging to the second and third resolutions, which proposals he thought it desirable to reject. It seemed to him that there was some misunderstanding and some not quite fortunate wording in regard to the first resolution. He thought the real object of the first resolution was a purely artistic one, and, as they should bear in mind, it was intended to suggest that architecture should not be put into the hands of the municipal official. He thought that was most important, because it would generally be found that they were not architects of original genius who tried for these official positions, but practical men with a good deal of surveying knowledge. If a man of original genius did ever get into such a position, he almost inevitably had his genius weakened; that was to say, he got entirely wrapped up in routine work. He heard that most strongly put by one of the leading Academy architects, Mr. T. G. Jackson. A man's genius suffered in such an appointment. Examples of this could be seen in the Post Office buildings, which were by no means the worst examples. As was known, the Post Office buildings all over the country were designed in the Office of Works, and, notwithstanding the fact that there was a very able architect in the Office of Works, the stamp of officialism was all over those buildings; whereas had the work of designing and erecting those buildings been given to a leading architect in each town, each building would have been an original work of architecture, with perhaps some local character about it. Instead of that, they were all designed in the official mould, and in every large town in the country there was one of these machine-made buildings, which, though not without some claim to respectability, were commonplace and uninteresting architecture. That was the sort of thing they wanted to avoid. It seemed to him that if the first resolution stated, "should not be designed and erected by engineers and surveyors holding official appointments," that would put more correctly what architects wanted; and in order to meet another objection they might insert the word "important" before "buildings of a municipal character." He thought that some alteration of this kind would express better what they had in their minds. He distinctly opposed Mr. Henman's amendment, because it seemed to introduce a trades-union element. and they did not want to be making a protest in favour of their own pockets, though they did want to make a protest in the best interests of architectural art.

Mr. Lacy W. Ridge [*F.*] said Mr. Henman's proposal was a good one for getting together the three resolutions in one, but the amendment would have to be proposed by someone in person, and he did not feel able to do so.

The Chairman said that he must rule that inasmuch as the amendment by Mr. Henman had not been proposed they must proceed to discuss resolution No. 1.

Mr. H. Hardwicke Langston [*A.*] said he was not in sympathy with any of the resolutions. The first resolution was a contradiction in itself, for engineers and surveyors who designed and carried out buildings of a municipal character must clearly have the ability to do so, and whether that ability were called the result of architectural training or not was really a matter of trifling importance. As to the intention and spirit of the resolution, if it meant anything it meant and was intended to convey that engineers and surveyors were to be written down as men incompetent and unfit to be entrusted with designing and carrying out buildings, which buildings were to be paid for out of the ratepayers' purse. Was it their place to lay down such an axiom as that? But the resolution was far-reaching, including all engineers and surveyors possessing the indefinite, doubtful qualification which, for want of a better term, was called architectural training. Before they could lay down an axiom of such severity it was necessary to prove that by a so-called architectural training there was conferred upon a man that fulness of discernment and power of mind to enable him to cope with the problem proposed; but there could be no such proof, and without an inborn and intuitive love for the art of architecture all the architectural training one could cram into a lifetime was of little avail. That being so, what was there left of the resolution to commend itself to them? Let them suppose a case where a man with an inborn and intuitive love of architecture, but technically trained and taught, found himself, without employment in the art he loved, driven to accept a borough surveyorship. Suppose he were driven to that. Was the fact of the acceptance of that appointment to prevent him making his position a stepping-stone into the practice of an architect, if luck and opportunity afforded an opening in that direction? If so, what became of the liberty of the subject? He ventured to say that patriotism and necessity were not to be stopped in their progress by such a punctilious recommendation.

Mr. Maurice B. Adams [*F.*] said that Mr. Statham had made some remarks with which he was in agreement, and he suggested that Mr. Statham should move an amendment to Resolution No. 1 embodying those remarks.

Mr. Statham said he had already written down the following amendment, viz.: "That in the interests of architecture it is inexpedient that important buildings of a municipal character be designed and erected by the Official Engineer or Surveyor to the Municipality."

Mr. Adams seconded.

Mr. Hadfield said that if the word "important" were omitted he should cordially support the suggestion. It took a man a lifetime to make a good plan of an important building, as they realised in that important building which they had just visited, viz. the new cathedral at Westminster.

Mr. Statham said he was afraid he could not agree to omit the word. It was put in to answer a perfectly logical objection, that by the original motion the city or borough engineer would be prevented carrying out such a work as a urinal. The word "important" showed that they meant buildings of architectural importance.

Mr. Adams concurred. Buildings, he urged, were put up by engineers and surveyors in various parts of the country—by men who were often little more than road-surveyors. In an important town less than sixty miles from London a large town hall had recently been very considerably altered by the official surveyor, and it now stood a monument of ugliness. Other like examples within the range of Greater London could easily be mentioned. Surely those of them who had any love for the art of architecture should protest. There was no endeavour on the part of the architects to get "a cut in" against the borough or town surveyor or the official "architect," but if they had any sense of beauty of architecture, surely it was their business to exercise their influence, which possibly might not be very great, to bring about the desired change in the interests of art throughout the country. The essential qualifications and consequent training of those who occupied with the most success the position of municipal surveyor were detrimental to artistic conceptions, and by the very nature of things the special duties and surroundings which governed the work of an engineering official to a township or central authority must of necessity be incompatible with the production of both architectural planning and beauty in design. To emphasise the force of this argument the speaker urged that it would be almost less incongruous to commission artistic architects to undertake ordinary road or street making and other kindred work instead of employing engineering surveyors.

Mr. Lewis Angell [*F.*] said he did not suppose the amendment, if agreed to, would have the desired effect, for the local authorities of the country would do what they pleased; but it would have the effect of creating a feeling on the part of the borough engineers of the country against the architects. In his opinion Resolution No. 1 as an expression of opinion would be sufficient. By the amendment borough engineers who were members of the Institute would be excluded from doing important architectural work; it was an attack on every borough surveyor, whatever his qualifications.

Mr. Brodie suggested that Resolution No. 1 should be put, with the addition of the word "important" before "buildings of municipal character."

Mr. Angell said that would open up a discussion as to what was important. He had been a borough engineer for forty years, and during that time he had carried out town halls, fire stations, lunatic asylums, and other large works—probably, owing to his long service, more buildings than any other municipal engineer in the country. There were several members of the Institute who held similar appointments, and for the sake of peace, and in order not to give offence to a large and important body of men in the country, it would not be wise to throw down the gauntlet.

Mr. Ridge said he was not agreed even with Resolution No. 1. An outsider reading it would, he feared, think it bad taste on their part to agree to such a resolution; and what was more, he did not think that any attention would be given to it even if it were passed. He therefore ventured to move the previous question.

Mr. E. W. Hudson seconded as an Associate of the Institute. The resolution, if passed, would be a dead letter. He could not see, while there were members of the Institute who were borough engineers and surveyors, that any good would be done by curtailing their powers and work until they, with all other practitioners, were alike subjected to a tribunal of taste. The profession seemed to be so dovetailed in with other matters that it would be as pertinent for civil and sanitary engineers to say that the architect should have nothing to do with the drainage of buildings, and that the engineer should be called in for the purpose. In spite of all their love for the art they could not forget that it was a profession also.

Mr. Langston, in supporting the previous question, said the matter was of such importance that he would like the members of the profession to be canvassed on the subject.

Mr. Ralph Nevill [*F.*] said they must all feel that it was undesirable for men without architectural training to meddle in architectural work, but the matter was a very difficult one to deal with, and it was difficult to decide what "important" meant. He felt that, should they pass these resolutions, they would provoke an unpleasant *tu quoque*, for there was no doubt that some architects were guilty of the very worst buildings possible; there was no borough in England where one could not point to some very bad works by architects. On the whole, in spite of the great good which might result in passing these resolutions, he thought it would be better to let the matter alone. On explanation Mr. Nevill subsequently voted against Mr. Ridge's motion.

Mr. J. D. Mould [*F.*] said that even those opposed to the resolutions seemed to be agreed as to the inadvisability of buildings of a municipal character being designed and erected by engineers and surveyors, yet in order not to awaken opposition in other quarters it was thought better not to press the matter. That was a spirit which might prevent them moving in almost any direction. The resolution was a true statement of fact, and if there were a possibility of its doing good it should be passed. He was in perfect agreement with the terms of the resolution. It was to the honour of the Institute that it had always approached these questions, not as a trades-union body, but in the interests of architecture. It was not intended to slight the municipal engineers—men of great qualifications, who had such diverse duties to attend to, and who had a very strong association, viz. the Association of Municipal and County Engineers. The Municipal Engineers' Association could pass a similar resolution against architects if they liked, to the effect that architects should be debarred from carrying out engineering work, and if they did he would be perfectly ready to agree to it. He thought it would be well for the Institute to throw aside any fear of awakening animosities, and, with perfect self-respect, in a proper spirit of protection, and with an eye to the good of the general body, to pass the resolutions.

The motion having been put and declared lost,

Mr. STATHAM said that another reason why he felt that his resolution should be agreed to was that architectural work for a municipality would be thrown open to competition, with the chance of getting the best result. That was done in France, where there were a number of official architects connected with all sorts of departments, but who were never entrusted with the designs for great buildings. The thing was thrown open to competition in order to get the best building.

Mr. HADFIELD said he desired to adopt Mr. Statham's wording.

The CHAIRMAN then put the amendment to the meeting, when there voted fourteen for it, and five against. It was then put as a substantive motion and carried.

Mr. LANGSTON asked if the votes of nineteen people would settle such a matter, and as a protest against that he should leave the meeting.

Mr. A. E. SAWDAY [*F.*], of Leicester, then moved the second resolution, which, he said, dealt with the same class as No. 1, viz. those who had had no special architectural training. A letter which appeared in *The Builder* for 9th June was evidently written under a misconception of the spirit of the resolutions. The resolutions were not aimed at those who, like the writer of that letter, evidently possessed special architectural knowledge, but those engineers and surveyors who could and would not themselves claim such knowledge. Probably nine out of ten borough engineers and surveyors would not claim to have special architectural knowledge. Most of those present would probably differ from the writer of that letter when he said that a borough engineer had included in his training a study of architecture as deep in its practical form as that of any architect. Most engineers possessed, and should possess, a certain amount of architectural knowledge, just as an architect should possess a knowledge of strength of materials, strains, &c., necessary for him safely to carry through his work. Nor was the resolution aimed at the carrying-out by engineers of that class of municipal buildings which might be regarded as closely identified with sanitary and other engineering work, viz. destructors, electric light installation, gasworks, and other kindred works; but it referred to those works of a purely architectural character requiring that amount of architectural and technical knowledge which an architect should possess to a greater extent than a man whose time was chiefly devoted to works of an altogether different class, and whose thoughts were directed in a different channel. The interests of the ratepayers required that the work done by the municipality should fully serve the purpose intended; should be thoroughly well planned, constructed, and superintended; and, what would perhaps be regarded by them as the chief matter, carried out at a minimum of cost; and it was suggested by the resolution that these results were best obtained by the employment of a trained and qualified architect rather than by a borough engineer. The first two points were best illustrated by the experience of the municipality which he had the honour to represent. The municipality of Leicester possessed a thoroughly capable borough engineer, and yet a few years ago it was decided to entrust all purely architectural works to independent architects, perhaps prompted by the fact that the town possessed an exceedingly capable body of architects, a fact which he might state without any egotism, since, as a member of the Leicester Council, he had been debarred from taking a share of the work which had fallen to his professional brethren. A great amount of work had been, or was being carried out, viz. fever hospital, asylum buildings, technical and art schools, cemetery with chapels and lodges, crematorium, public baths and free libraries, gas offices, market buildings, industrial dwellings, &c.—all distinct from and having no relation to the work of the borough engineer, but work which in many municipalities was undertaken by the engineer. All this had been attended with the most satisfactory results so far as the ratepayers were concerned. Concurrently with all this a vast amount of sanitary and engineering work had been carried out by the borough engineer and his staff, viz. new main sewage scheme and pumping stations; laying out sewage farm of 1,400 acres; bridges; refuse destructors, &c. Their borough surveyor, able as he undoubtedly was, would not be able, with this and other work appertaining to the office on his hands, to give to those purely architectural works the personal attention they deserved. If carried out by the borough engineer's department, the work would necessarily devolve upon a subordinate, with, generally speaking, unsatisfactory results.

Even the time he would be able to give to such work would be time which ought to be given to matters more immediately demanding his attention, and which, in consequence, would devolve on a subordinate, and both branches of the work would suffer for the lack of that personal attention which both demanded. All architects, it was true, were not worthy, and some were not as scrupulous as they might be, but such cases were few and far between. The five per cent. saved when the work was carried out by an official was not a saving in reality—the small margin of profit made by the architect and the payments to subordinates equalised that account. Again, borough engineers approached architectural work from the standpoint from which they regarded their own, and not always with regard for the best and most economical use of materials. He knew a case where a building erected under the supervision of an engineer had the walls thirty per cent. to fifty per cent. thicker than would have been regarded as necessary by an architect after having due and proper regard for safety of construction. The five per cent. commission was saved, but it was quite accounted for by the extra cost of building. Demands on municipalities increased from year to year; works carried out by them were increasing in number and importance, and the demands on the time of their officers correspondingly increasing; and for those reasons he thought that works requiring the architectural knowledge which the architect should possess should be carried out by him in the truest interests of the public. There was room for architect and engineer to work side by side, aiding and assisting each other, neither jealous of the other, but each attending to his proper functions and the work to which each had been specially trained.

Mr. Statham said they had all been pleased to hear the views of Mr. Sawday, but he did not think that, as architects, they had anything to do with considering municipal finance or the interests of the ratepayers. He felt that the resolution that had been passed was in the right direction, viz. the interests of architecture; but the second resolution was going into things which did not concern the Architectural Congress. In passing the first resolution they had done all that they could for their cause, and he therefore moved that the resolution before them be not considered.

Mr. Angell, in seconding, asked what was the use of piling up the agony with three resolutions? The gauntlet was being once more thrown down in the suggestion made in the resolution as to sound finance. The same suggestion might be made by borough engineers and surveyors about architects. Having passed the first resolution it was unnecessary to do more.

The Chairman then put the amendment to the meeting, and it was agreed to.

In reference to the third resolution, Mr. Hadfield said he was sorry that Mr. Joseph Smith, the President of the Sheffield Society, was not present. He believed that Mr. Smith's strong feeling was that the third resolution was quite unnecessary, and he, the speaker, ventured to take the responsibility of saying that there was no necessity for it at all.

It was then agreed that the resolution be withdrawn.

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